

5

GREAT MAC APRIL FOOLS JOKES!

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# Mac

## ADDICT

32

- Top 10 HOTTEST NEW MAC GAMES
- KEEP YOUR MAC HEALTHY: Apple's 6 Item Plan

APR/99

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15 YEARS  
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APPLE  
TECHNOLOGIES

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HERE AT LAST!

MORE DIRT ON  
THE NEW G3

QUICKTIME'S  
HIDDEN SECRETS

# ULTIMATE MAC FAQ

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(your most URGENT Mac questions, that is!)

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LASER?

IMAC  
OR  
G3  
TOWER?

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OR  
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HFS  
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# Special Dream Scheme Survey!

Congratulations! You have in your hands one of only 100 randomly seeded special editions of *MacAddict* that come with this survey done in cooperation with Pantone, Apple Computer, and Crayola. You could win an iMac for the best custom colors!\* See instructions below on coloring the pictured iMac.

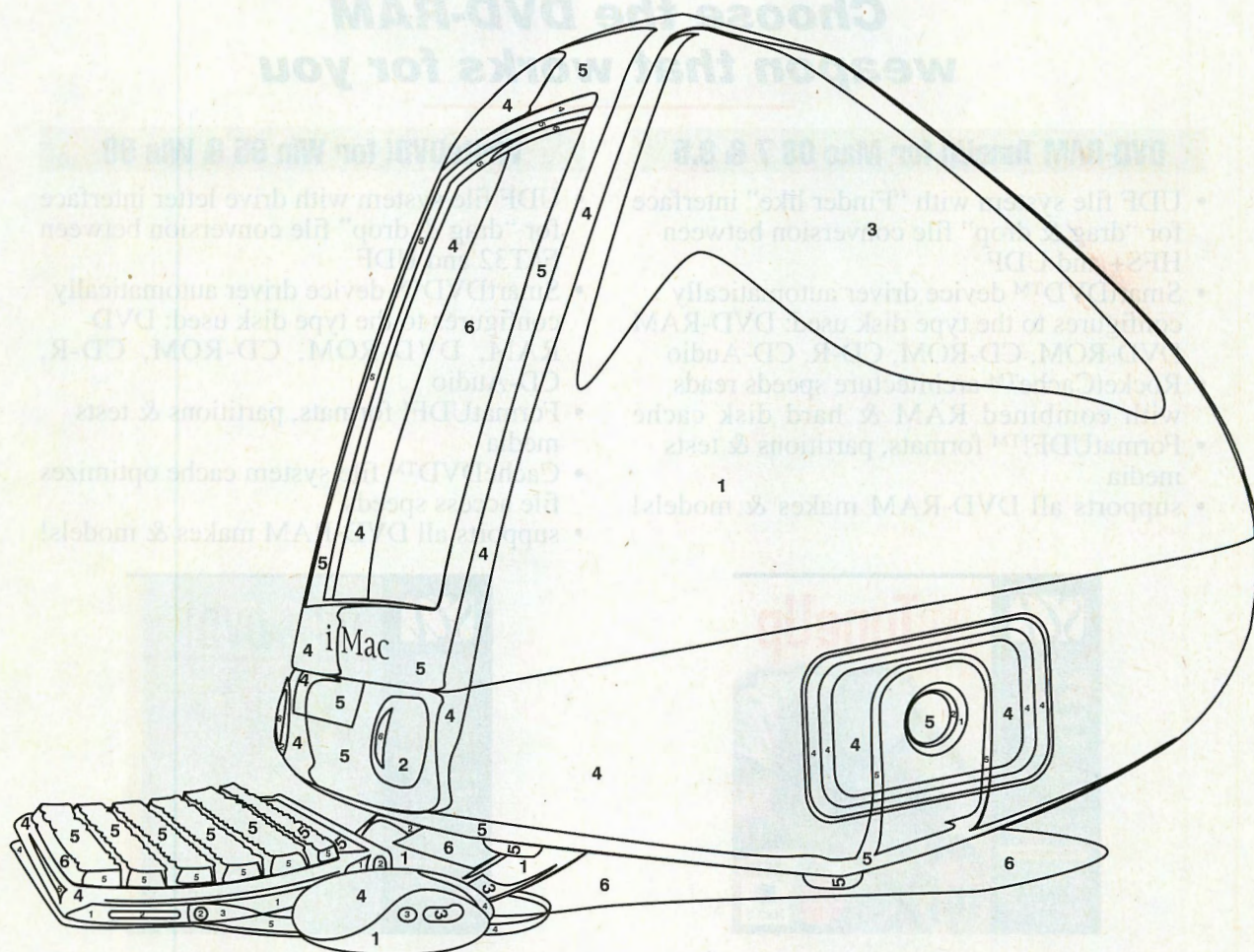


Illustration by Chris Vanderhoof

## Legend

- |   |                            |
|---|----------------------------|
| ? | 1 Your color               |
| ? | 2 Color plus shadow        |
| ? | 3 Color plus highlight     |
|   | 4 White/spectral highlight |
|   | 5 Shadow area              |
|   | 6 Dark shadow area         |

## Instructions:

Note: Please read *all* of the instructions before proceeding.

- 1) Lock yourself in a bare room with white walls and no more than 60 watts of lighting to simulate a proper design environment.
- 2) Tap into your primordial creativity and draw, draw, draw!
- 3) Use a water-based polyurethane to protect your completed drawing.

Mail completed entries to: April Fool! c/o I've Been Had, Man, I'm a Sucker!

\*Not bloody likely. Pantone, Apple Computer, and Crayola do not endorse this joke, nor do they even know anything about it. It is, in fact, a joke, and no prizes will be given out. All it's good for is a hearty chuckle.



# WAR ENDS!

## PEACEFUL CO-EXISTENCE BEGINS

### *International Powers Conduct Peaceful Interchange*

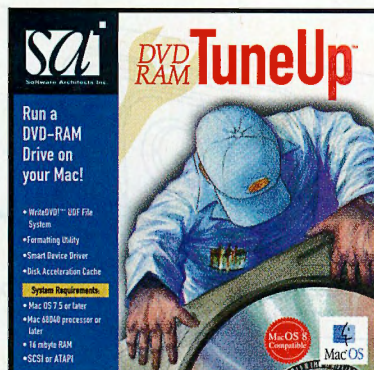
Computer leaders throughout the industrialized world have agreed to a new convention that makes the *Universal Disk Format* standard on DVD-RAM and DVD-ROM drives, and guarantees "peace in our time" between Mac partisans and allied Wintel forces.

Now Mac citizens can peacefully exchange DVD-RAM disks and files with their Wintel counterparts without fear of data destruction or untimely delays. People can now freely distribute their creativity on disk around the world without fear of format conflicts.

### **Choose the DVD-RAM weapon that works for you**

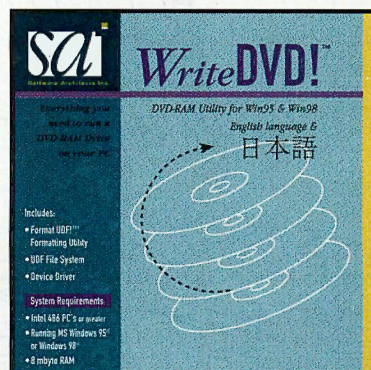
#### **DVD-RAM TuneUp for Mac OS 7 & 8.5**

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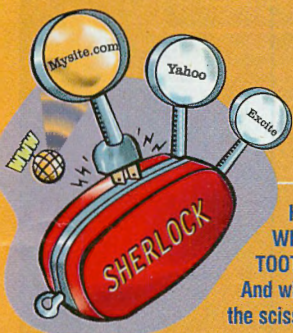
OUR FUTURE IS GETTING SLEEPY. I mean, I'm getting sleepy. I mean...



DON'T COME ANY CLOSER. I mean it. Stay back.



TALK ABOUT HAIR-BRAINED SCHEMES! Get a Jobs, you punk.



HEY! WHERE'S THE TOOTHPICK? And what about the scissors?



THE CRYSTAL BALL on the cover came courtesy of John Ueland.

APRIL 1999

# highlights

# Mac

## ADDICT 32

## 18 MacAddict Advice Guide

Should I upgrade? Flat screen or CRT? We answer almost every question you could ever ask about a Macintosh—or at least the most pressing ones. We also delve into some of the thorny ethical questions surrounding Microsoft products on a Mac, and we even share our thoughts on that age-old question: Which Mac should I buy?

BY MARIA LANGER

## 26 Do-It-Yourself Practical Jokes

It's April again, and we've decided to kick off the joking season with five ways to play pranks on your favorite Mac users. And just to make sure the damage isn't *too* bad, we show you how to undo the jokes. You'll be the life of the party!

BY TODD STAUFFER

## 32 Ultimate Mac Top 10 Lists of All Time

We've scratched our heads long and hard (you can still see the marks) to boil down the best of the Mac into delectably digestible lists of 10. But try not to read them too fast—we don't want you to choke on the gristly parts. Yes, this sounds like meaty stuff, but there are no actual animal products used in this article. Steve would be proud.

BY THE MACADDICT STAFF AND OWEN W. LINZMAYER

# how to

## 68 Correct Color with Photoshop

Although it may be part magic, there's also a certain science to making your pictures look right, and Photoshop has all the tools to help you tweak pixels to your heart's content. It's no longer a matter of "Don't touch any of the controls or you'll mess it up." Now you can take that touch of jaundice out of almost anyone's skin.

BY ROBERT CAPPS AND AARON LAUER

## 72 Make a Sherlock Plug-In

It's the hottest thing to hit the Mac OS since—well, it's the best part of Mac OS 8.5, anyway. We're talking about Sherlock, and we tell you how to go about making your own search plug-in for sites that lack one. It's easy!

BY MARK SIMMONS

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toe the line.



# every month

## 8 Editor's Note

Although the era of cloning is long gone, the echos of Power Computing still haunt Macworld Expo's halls.

## 10 Letters

Yes, there has been a cold snap in the nether regions—we actually have a few serious letters this time.

## 12 Get Info

This month we get FireWire down cold, give the boot to startup worries, and navigate through an alphabet soup of PCI, AGP, and IEEE.

## 16 Scrapbook

All about USB—who's making the coolest peripherals, how they work, where you can get your hands on them, and why they're spiffy!

## 44 Reviews

For this month's reviews feast, we pared piquant plug-ins for Photoshop and audio sequencers; sliced and diced DiskWarrior 1.0.2, LaCie DVD-RAM, and Mach Speed G3 400; then carved up Canvas 6, melted MacInTax 1998, and flambéed FWB Hard Disk ToolKit 3.0, capped off by the Canon Vistara, and for dessert, the pièce de résistance, Myth II: Soulblighter. Yum.

## 66 Power Play

Quake III: Arena shakes the Mac, and the shock wave hits PC gamers upside the head. Find out why you should get the Myth II soundtrack and which juicy titles are our picks for early '99.

## 78 Ask Us

What is that funky icon with a little figure next to a flag in the menu bar? What PC emulation program works best for a PowerBook 1400? How do Apple's system software updates install? We answer these and other burn-in questions, right here, right now.

## 104 Shut Down

More Mac humor than you can shake a stick at while swinging a dead cat over fish in a barrel....or something like that.

**Mac**  
**ADDICT**  
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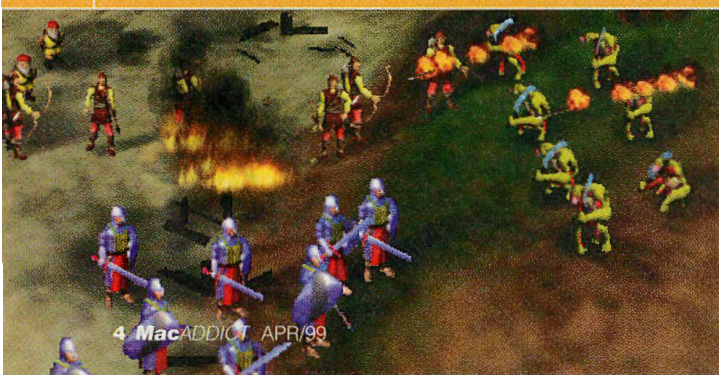
Imagine Media is aimed at people who have a passion. A passion for games. For business. For computers. Or for the Internet. These are passions we share.

Our goal is to feed your passion with the greatest magazines, Web sites, and CD-ROMs imaginable.

We love to innovate, we love to have fun, and we have a cast-iron rule to always deliver spectacular editorial value. That means doing whatever it takes to give you the information you need. With any luck, we'll even make you smile sometimes...

Thanks for joining us.

Who is the Metallica of vitamins, and who's their drummer? No monkeys, but plenty of lizards. Buy the 400MHz Power Mac G3, then go lick some...um...Popsicles?



MYTH, MYST, whatever.  
It's the one with the  
exploding chickens.





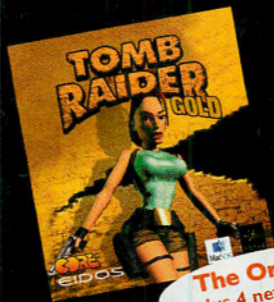
SWF, tall, athletic, brunette, quite proportional. Looking for partner in gameplay. Must like adventure, international travel and exploring ancient ruins. Hobbies include swimming, motorbikes and kicking warrior-monk butt. PC fancy boys need not apply. Call me today!

A/M needs love and a car

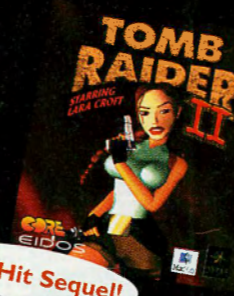
This ain't no moonlit walk on the beach, it's a double date with danger! Tomb Raider Gold combines the original Tomb Raider with four massive, new worlds and levels. Explore ancient ruins and solve complex puzzles in your adventures through Atlantis and the Lost City of Khamoon. Then, try out Lara's saucy, new moves and arsenal of weapons in Tomb Raider II, as she continues her quest through Tibet, Venice and the Great Wall of China.

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**westlake**  
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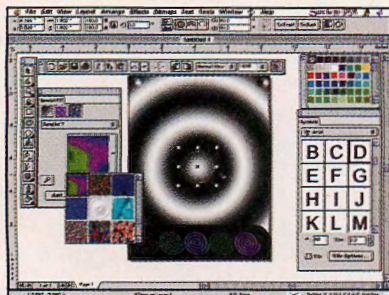
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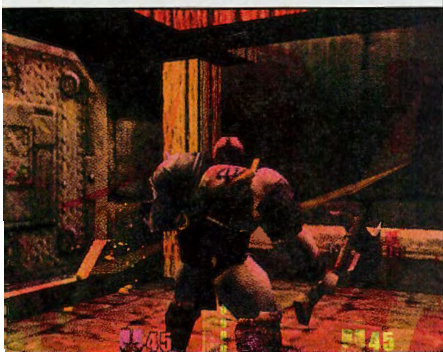
YOU ARE GETTING SLEEPY, very sleepy, but first you must put in The Disc and check out CorelDraw for yourself...



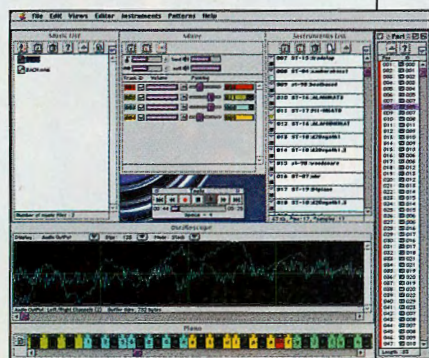
TECHTOOL PLAYS DOCTOR....



...and gives your Mac a clean bill of health.



I ASKED FOR A BLACK FURBY, you stupid elf! Next time, let Santa know I'm not kiddin' around!



BACH ON A BUDGET!  
You can't get a sweeter deal than this, kids.

# the disc



## For All You April Fools...

### highlights

#### CorelDraw 8 Trial

Create works of art without getting ink on your fingers, eraser bits all over your floor, or spray paint up your nose. This powerful, full-featured graphics suite is jam-packed with tools for illustration, page layout, and photo editing. With the latest CorelDraw you can crank out professional-quality documents with ease, for print or the Web.

#### TechTool 1.1.8

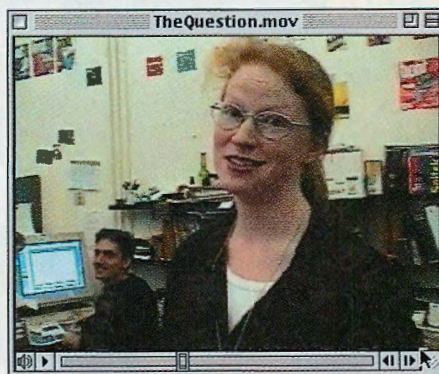
Crash! Burn! Die! It's the Sad Mac Blues. Oh, the despair you go through when strange things happen to your little Mac. This free diagnostic utility is like a doctor for your Mac, making its house call via The Disc. TechTool can look into your sick Mac's innards and solve those seemingly incurable problems that elude other utilities. Let it rebuild your desktop files from scratch and report useful information. Zap! Your PRAM is all better.

#### Dark Vengeance Demo

It's elves with an attitude in the eerie world of Dark Vengeance. Journey through an engrossing 3D expanse in this adventure-combat game as a warlock, a trickster, or a gladiator. It's up to you to bring the Dark Elves to mercy as they take revenge on the people of Amagar. Meet over 30 different rogues—the baddest of the bad. This game rocks with superb graphics, fluid animation, and enough fast-paced, swerving motion to nauseate you. With three radically different styles of combat and an arsenal of more than 30 weapons, can you go wrong? Your answer, my friend, is fated.

#### PlayerPro 5.02

All you starving music artists of the world, lend us your ears. If music runs freely through your blood but makes a pit stop when it comes to your pocketbook, try out PlayerPro. This multitrack recorder-editor software is not only easy to use—it's free! Import sound files without any extra hardware, or record directly from your MIDI setup. Editing is easy with the onscreen Digital Editor, or you can add notes with the onscreen piano. PlayerPro supports AIF, MIDI, MOD, and WAV files, System 7 sound, and more.



In this month's staff video, Nikki asks, "What's your favorite iMac color?" But getting a simple answer isn't easy—especially when the people polled work for our sister publications *Maximum PC* and *PC Gamer*!



# Think Gig.

## Asanté Introduces Gigabit Networking for the Macintosh.

Apple is leading the digital revolution with its new Power Macintosh G3. Asanté is making sure all of your existing machines can keep up.

Our new FriendlyNET™ 7000 series of affordable, easy to install Gigabit switches ensure that no one will be waiting on the network because of large file sizes or Internet traffic.

Combined with our cross-platform GigaNIC™ PCI adapters, your entire office can soon be performing at Gigabit speed.

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FriendlyNET Gigabit solutions stand up to the bandwidth demands of today with flexible expansion options for the future. And we stand behind our products with free technical support and a limited lifetime warranty.

So what are you waiting for? You won't find a faster, more reliable and cost-effective Gigabit networking solution anywhere. Think Gig.

**For complete details on the entire line of Asanté networking solutions call 1-800-303-0283.**



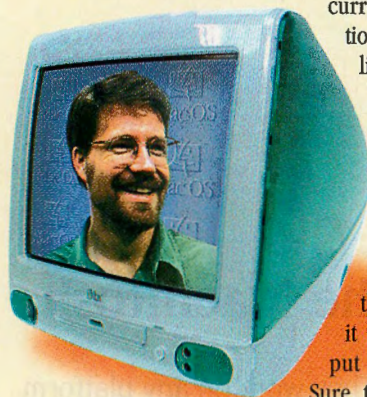




# editor's note

With post-Expo depression settling in, something's clearly missing.

January's Macworld Expo was the greatest show in years. Unlike the past couple of shows—where talk in the aisles centered around the dismal situation and the possible sounding of Apple's death knell—this year everyone was excited about Apple's current financial situation, the new product lines, and the new technologies that keep popping up. Once again, folks were happy to be Mac-ophiles.



But something was missing from this year's show, and it took me a while to put my finger on it. Sure, there were the usual goofy promotional items—Agfa boxes that doubled as hats, for one—as well as the assorted parties, new gadgets, and occasional oddities such as the person walking around in the Stand-Alone Laptop Computer Harness (mobile computing at its finest). Castlewood Systems was there again, saying the Orb removable storage drive would be arriving real soon now. But something felt off, and it wasn't the lack of Iomega clickers. It was the absence of Power Computing.

Now, I once heard someone say that nostalgia is a dangerous business because it's a longing for what never was. When Power Computing was at its zenith, Apple was plunging toward doom, and without Apple, Power Computing would never have survived. Still, I miss the latter company's presence and energy—the ads, the Humvees, the people in fatigues running around the show floor, the overwhelming sound coming from the Power Computing booth, the bungee-jumping over Boston Harbor (not that you'd ever get me to jump off a tower with a rubber band tied to my ankles).

In the past, though, Power Computing played its most important role as the catalyst spurring Apple to compete.

I also miss the competition Power Computing provided. Right now, Apple is competing with the Wintel world for the fastest hardware at an affordable price, and it's doing a fine job. The most recent G3 towers have amazingly fast processors, system buses, and graphics, and they start at just \$1,599. They also compare pretty favorably with any comparably priced Wintel box out there.

In the past, though, Power Computing played its most important role as the catalyst spurring Apple to compete. Power Computing was always coming out with hardware that could match or beat the performance of Apple's machines at prices that were as cheap or cheaper. Therefore, to stay alive, Apple had to dig in and start bringing performance up while keeping prices down. And it did, until Jobs decided to eliminate cloning and Power Computing went away. At that point, Apple had Gossamer-based G3 towers on the market—and the rest, as they say, is history.

Still, who doesn't miss the attitude Power Computing put out there? Remember the controversial Jobi promotional artwork with the Sluggo-like character saying "Let's fight back for the Mac" (or "Let's kick Intel's ass," depending on the version)? Or the ads featuring a blindfolded childhood version of Bill Gates at a birthday party being harassed by the other children—now *that's* comedy.

These days leave us with Apple's new marketing, which—although fantastic in its own right—lacks a certain grittiness, a certain willingness to get dirty and really *say* something. For example, Apple is more than willing to take on Intel in its ads, but where are the jabs at Microsoft? They're gone the way of the Cold War, what with warmer relations between Cupertino and Redmond. Ah, perestroika.

Jobs may have made the right decision as far as cloning goes—Apple's continued fiscal health seems to prove that—and the company is still pushing to make faster, spiffier, cheaper Macs. I have to say, though, I still miss the scrappy little clone maker that spurred Apple on to bigger and better things.—*David Reynolds*

## A Big Thanks

Scott Gaidano is the last person you'd want to see.

Not because he isn't a nice guy. The reason you don't want to see Scott is because if you're seeing him, you're probably visiting DriveSavers (<http://www.drivesavers.com>), and that means something very bad has happened to a hard drive of yours, and you have no backup of the vital data inside. DriveSavers specializes in recovering data from dead storage media, and does a fine job of it.

And just how would we know this? Well, we failed to practice what we preach, and the Evangelist Web site (hosted on a Power Macintosh 7500) paid the price. For no apparent reason, the drive suffered a disastrous head crash and died. Period. Neither Drive Setup nor FWB Hard Disk ToolKit could see it. And since we hadn't backed up the site in a while (it's comprised of over 20,000 files), we had a real problem on our hands. So we went to DriveSavers to visit Scott.

Within a couple of days, the DriveSavers staff had the Evangelist data recovered to a couple of CD-ROMs and sent back to us. They had to disassemble the drive in their clean room and extract the data from the hard drive plates. The service was outstanding and the end result was amazing. We copied the files from the recovered CDs back to the server hard drive, then launched the Web server application (also recovered from the defunct drive)—and the Evangelist was back up and running.

So what did we learn? Backing up is a *whole* lot cheaper than data recovery. You'll pay a price for DriveSavers' service, and that price can come to thousands of dollars—so the cost of a CD-R drive and some blank CDs suddenly seems trivial. We also learned that if you don't always practice good backups and the worst happens—such as a head crash—you may not lose the data forever. DriveSavers has successfully recovered data from hard drives that endured fires, floods, even the Amazon river.

We just want to say thanks, and breathe a big sigh of relief.



# We could tell you lots of nice things about CANVAS™ 6.

"Deneba's SpriteLayers technology lets you create some interesting transparency effects that would be difficult if not impossible to make in a dedicated drawing program... In the competition of the graphics titans, Canvas 6 is fighting with a unique set of weapons."

Macworld — Feb., 1999

"Version 6 has dramatically improved the software's interface, significantly increased user customization and added lots of useful features... Canvas 6 delivers power and versatility at a competitive price."

eMedia Weekly — Jan., 1999

"Canvas 6 is sure to please faithful users..."

Canvas continues to deliver a vast scope of graphics tools in one convenient application, and does a remarkable job of breaking down barriers between bitmap and vector graphics."

PC World Online — Dec. 28, 1998

"Canvas 6's array of new transparency tools allow you to create awesome depth and layering in your images — and it does so better than other graphics products on the market today."

MacAddict Magazine

"With its elegant interface, Canvas is a compelling alternative to suite-based solutions that require separate illustration and image editing programs to perform the same functions... Canvas has always performed well with technical illustrations, featuring extraordinary dimensioning capabilities and numerous precision drawing aids... The program warrants serious consideration from newcomers seeking an elegant and relatively inexpensive tool."

PC Magazine — Jan., 1999

"SpriteLayer technology represents an industry breakthrough because

it allows users to apply an

unlimited variety of compositing effects to any type of object or group of objects... [SpriteLayer] technology is an excellent piece of programming wizardry. With it, designers can easily experiment with complex graphic ideas that would have been prohibitive or impossible in any other program... Deneba has given designers a creative tool that makes it more convenient than ever to play around with any and all of their graphic elements in one place."

Digital Design & Production —

Jan./Feb., 1999

## But these experts beat us to it.

"Deneba has done what Adobe has refused to do: unify graphics apps... Canvas 6.0's unique

ability to combine disciplines will lead the designer down previously inaccessible creative paths... SpriteLayers composite like no other program can."

Maximum PC — Jan., 1999

"No program comes close to Canvas' ability to combine vector and bitmapped graphics... No other program provides this level of transparency control."

Macworld — Mar., 1999

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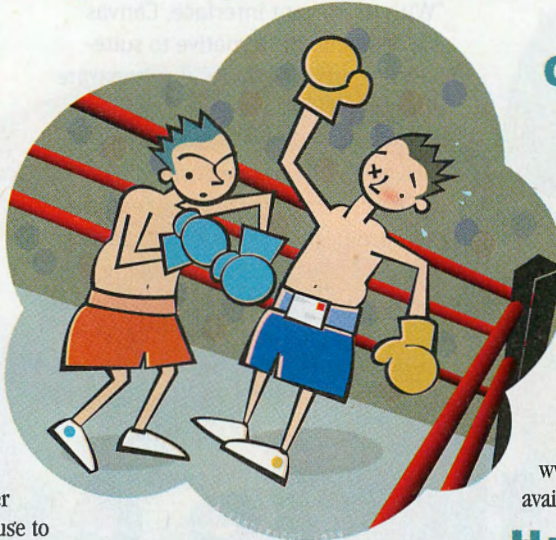


# letters

Annie get your paint gun—it's time to get serious.

## This Month

**WRITE TO US:** MacAddict, 150 North Hill Drive, Suite 40, Brisbane, CA 94005, or email to [letters@macaddict.com](mailto:letters@macaddict.com). **FOR CD PROBLEMS:** Go to <http://support.imaginemediacom.com>. **FOR SUBSCRIPTION QUERIES:** Call (toll-free) 888-771-6222.



## GET READY TO RUMMMMBLE!

All the inane letters always get published. Does that mean if I'm inane and start talking about a broken toaster and firefighters breaking into your house to fix your oven I'll get published? Maybe that's not inane enough. But it's good enough. By the way, here's another movie pun: *I Know What Mac You Bought Last Summer*. And you can go ahead and send me one of those G4 prototypes—you know, the ones with the tactical nuclear weapons.—DOUG BACK

Oh, thank you, Gabe Graff, for speaking out against running all those silly, pointless letters from kids and halfwits (*Letters*, Feb/99, p12). It's just wasting space. I hope you change that practice, because I was beginning to think *MacAddict* was just going to be a kids' and gaming magazine and it was time for me to go elsewhere.—MARIANE MATERA

I completely agree with reader Gabe Graff. The *Letters* section has become quite stupid. When I became a charter subscriber of the "new kid on the block," it was in part due to its irreverent sense of humor; now the pendulum has swung too far. Letters saying, "If you hold a picture of Bill Gates upside down, you will notice..." "I would like a date with..." and "I was blowing my nose, and realized that it looked like..." just don't belong in a computer magazine; I read *Mad* magazine for one reason and yours for quite another. You must get bombarded with infantile email from people who don't have much of a life and think they're being cute, but do you have to publish that junk? Would

these people send as many dumb letters if each one required a 32-cent stamp? When Graff suggested that you stop encouraging this type of mail, your response was, "We doubt it"—implying that *MacAddict* will continue to transform from computer magazine to comic book.—GLENN KUKLA

I just finished reading Gabe Graff's letter, and I just have to say: Mr. Graff, your letter was stupid. I personally enjoy the *Letters* section very much. It's original and, above all else, funny. If you want to read letters like "I enjoyed your 10-page article about PostScript printers," then go back to reading *Macworld*! *MacAddict* has been, is, and (I hope) always will be kinda out there, and hopefully so will its readers. I applaud you and your *Letters* section, *MacAddict*. Keep up the good work, and don't ever change. That said, can I have a G3 PowerBook?—MATT WILAMOWSKI

*No letter we've published has generated as much—and as interesting—mail as Gabe Graff's in the February '99 issue. And the message was pretty clear: you want less fluff and more real content. The Letters section should be a way for readers to offer feedback—as well as have fun—so we'll be changing our selection to reflect this. But don't worry. The silliness will still be there, just mixed in with other stuff. Boy, that sounds mighty serious!—DR*

## OH SURE, MAKE IT EASY

Yes, the Help key is quite annoying. But severing it from the keyboard, as shown in "Void Your Warranty" (Feb/99, p24), is a drastic action and leaves an ugly hole. There's a better solution. Get HelpLess, a handy extension that disables the Help key. It comes with a control panel that lets you choose settings, such as which apps you want it to affect. I got it from ResExcellence (<http://www.resexcellence.com>), but it may be available from other sources.—ETHAN GEIL

## HAS THE FCC COME BY YET?

I must say that your how-to "Turn Your Mac into an Internet Radio Station with QuickTime 3.0" (Feb/99, p78) rocked! I have already made three recordings and put them up on my Web page to notify members of happenings on the site. Mark Simmons, you are a wonderful person! I have wanted to do this for so long, but I never found a simple article explaining how to do it! I got a 35MB file down to about 786K, and it uploads beautifully!—ADAM ROSENTHAL

## GUNS AND UNICORNS DON'T MIX

While watching the February staff video on The Disc, I was both amused and disgusted. While I can appreciate the humor in shooting a Pintel machine with a paint gun, the staff members' quailing approach to their mock firearms was nothing short of pathetic. In fact, only the Prison Guy's execution-style assault on the PC case injected a little machismo into an otherwise estrogen-laden scene. I was forced to conclude that the men at *MacAddict* are better suited to the first half of the video: painting rainbows, hearts, and unicorns on the cases of their Power Macs. Don't think I didn't notice the tarp that the case sat on, either. Your prissy attempt to keep the concrete free of unsightly splotches was all too obvious.—DOUG KNITTEL



**GET ON, GET ACTIVE.** Talk to us and to other Mac addicts at the Web site.



After watching the *MacAddict* staff paint the PC outdoors using fake firearms, I've decided I want to work for *MacAddict*. Are you currently looking to fill any positions? Maybe an assistant computer painter?—RYAN VESLER

## YES IT IS. AND WE FEEL FINE

When Apple released the new iMacs in five new colors (other than Bondi blue), it forgot one color—yellow. I planned to buy a whole bunch of iMacs in a variety of colors (in my rich dreams) and display them on a group of shelves in the pattern of the Apple logo. But without yellow it can't be done! Why did Apple leave out that important color? Is it the end of the world as we know it?—DEBRA GETTING

## WHACKED WAX TRACKS

I want to point out what I thought were two oversights in the audio how-to article "Digitize Your Wax" (Feb/99, p74). The first is that you can't judge CDR media by color alone. I use the Verbatim brand, which has a blue dye layer, and have never encountered a problem. In fact, I actually saw one of my coworkers use an eraser on a mislabeled disc, and it still works fine. The second error is the statement that you can't use Toast with a PowerBook. This is not true if you own a new G3-series PowerBook. The new PowerBooks support SCSI Manager 4.3 and can handle the higher transfer rates needed to run Toast.—TODD ZAGUMNY

The "Digitize Your Wax" article by Owen Linzmayer has some glaring errors, possibly due to oversights, but one really stands out. On page 74, he states that you can "start with your turntable," referring to a source for a sound card when you want to make a CD from your old vinyl. Wrong.

I'll try to be brief. The specifications for most analog RCA jack inputs on most sound cards are for consumer (–10dbv) line level. This means cassette decks, CD players, and the like. Phonographs may have the same type of plug, but they are not electrically compatible with that type of input; their outputs are of much lower level (–60dbv). But the kicker is that they must have fixed equalization applied according to the RIAA curve, in addition to the needed amplification. Otherwise it will sound like s\*\*t. Radio Shack sells a phono preamp, but it is crap. The best idea is to use the tape out from your receiver.—KLAY ANDERSON

## HE'S GOT THE BEAT

Here's something to do if you are looking for some random rhythms using not a drum pad or a music program, but Mac OS 8.5. In the Appearance control panel, select the Sound tab, and then select the Platinum Sounds soundtrack. Crank up the volume to the max. Next, open the Preferences folder (located in the System Folder) and from there open the browser preferences folder that you use (for example, Netscape Users). Open the browser's cache folder, select all the cache files, and press Command-D to send them all to the Trash. Then sit back and enjoy the rhythm! I use the browser's cache folder because it's the only one that fills up with hundreds of items that have to be thrown out. Why not make it fun?—EDDIE CHEAZ

## YOU KNOW YOU'RE A MAC ADDICT WHEN...

...you wish there was a Sherlock to find your missing discs.

...you use the power LED on the monitor as a night-light.

...you wish you had AppleScript so that you could write a script for brushing your teeth.—LEE BARNES

★ Ranked TOP 1% of 1998 Software Reviewed ★

Macworld



\$49 or less!  
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**Sometimes bad things do happen to good computers. Your screen freezes.** (Along with the blood in your veins.) **Or your 6-months-and-almost-done project is accidentally thrown out with the trash.** (Hello?) **Or files are mysteriously "corrupted."** I just don't have the time to reconstruct my docs, files, bookmarks, fonts, preferences, financials, reports, and e-mail. Do you?

# My hard drive just crashed.

**Retrospect Express** provides automatic protection for everything on your Mac at a no-brainer price. **It's never been easier** to back up your hard drive (and everything on it) to **Zip, CD-R, Jaz,** or even to the **Internet.** With small and home offices among those hardest hit when disaster strikes, the laws of probability guarantee that sooner or later, your number will come up. But for **less than \$49, Retrospect Express** guarantees that you'll be smiling when it does.



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# get info

In which we get into the new G3, cavort with keyboards, and meet Steve's clown clone.

## What's Cooking with FireWire

*High-bandwidth bus is finally hot to trot*

**W**e've been waiting for it for years. Apple's been promising it for months. Now it's here, and we've got the lowdown on the high-bandwidth, multimedia-friendly peripheral interface known as FireWire. Previously available only as a third-party upgrade or an Apple build-to-order option, FireWire has finally made it onto the motherboard of Apple's new blue-and-white Power Mac G3 tower. Just as USB covers the whole range of low-end, low-bandwidth peripherals, FireWire has the potential to handle all your high-end device needs. Ultimately, Apple expects FireWire to become the bus of choice for everything from digital video to heavy-duty printing. Our chart (at right) outlines some of the product categories in which FireWire may make its presence known in the next couple of years.

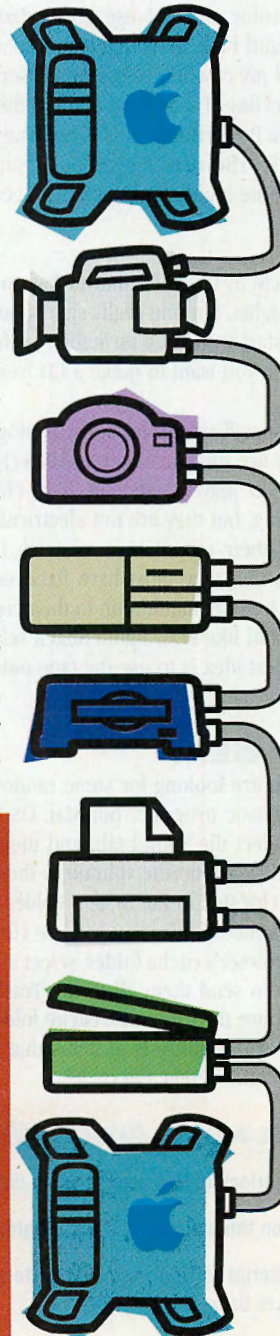
What makes FireWire such a good match for so many demanding tasks? For starters, there's its high bandwidth—it currently goes up to 400 Mbps, four times faster than 100BaseT Ethernet and two-thirds the speed of Wide Ultra2 SCSI, and future incarnations of the spec will push its speed up into the gigabit neighborhood. For demanding real-time media applications, devices can reserve a portion of this ample bandwidth and guarantee an uninterrupted isochronous data stream.

Then there's its plug-and-play flexibility. Like the now-familiar Universal Serial Bus (USB), FireWire lets you plug and unplug devices without worrying about termination, arcane ID numbers, or blown fuses. You can connect up to 63 devices to a single bus, daisy-chaining them or using multiport splitters to hook up a cluster of devices. And like USB, the FireWire bus transmits power to the attached peripherals—enough, as Macworld Expo keynote attendees have seen, to run a hard drive.—*MS*

### IEEE! IT'S 1394!

**T**he interface we know as FireWire goes by many names in the computer industry. While the Institute of Electrical and Electronics Engineers has accepted the interface itself as a standard, the name FireWire is an Apple trademark not everyone has chosen to license. Here are a few of the synonyms in current circulation.

- **FireWire:** Apple's preferred term for the high-bandwidth bus. Third parties who make FireWire products can license this name and logo.
- **IEEE 1394:** The Intel industry's favored terminology. This is simply the formal name of the IEEE specification, and is often abbreviated to 1394 to confuse customers.
- **i.LINK:** A variant of IEEE 1394 Sony created for use in consumer digital-video devices, i.LINK allows copy protection of transmitted data—a must for makers of set-top boxes and video recorders.



**YOUR COMPUTER:** The new Power Mac G3 sports two FireWire ports on a single bus, which between them can support up to 63 devices.

**DIGITAL VIDEO:** There are already a bunch of FireWire-ready camcorders, and soon we'll be swimming in videocassette recorders, set-top boxes, video converters—you name it.

**DIGITAL CAMERAS:** While the 12-Mbps USB is adequate for low-end cameras, professional shutterbugs may prefer FireWire's wider pipeline. If so, Kodak has what they need.

**HARD DRIVES:** FireWire outpaces all but the fastest varieties of SCSI and ATA, and it's certainly easier to work with. Look for FireWire hard drives and RAID arrays soon.

**REMOVABLE DRIVES:** LaCie is prepping DVD-RAM and CD-RW drives. Castlewood Systems has promised a FireWire version of its long-awaited Orb. You get the idea.

**PRINTERS:** USB is adequate for inkjets, and Ethernet is a decent solution for networked printers, but FireWire may have its merits for high-end printing devices.

**SCANNERS:** As with printers, high-end professional scanners may one day hop aboard the FireWire bus.

**ANOTHER COMPUTER:** Yes, FireWire has networking potential. Two computers can share devices and communicate on the same FireWire bus, and devices called *bridges* can connect FireWire buses in honest-to-goodness local area networks.



# Booting Call

*What starts up the new G3*

One aspect of the new Power Mac G3 sends shivers of terror creeping up the spines of would-be buyers—it has no onboard SCSI. To squash this fear, Apple enlisted Adaptec to manufacture a bare-bones \$49 SCSI PCI card, which Apple offers as a build-to-order option for those who can't let go of old hard disks, scanners, Zip drives, and the like. But the disorienting effects of change are not so easy to suppress. Skittish Mac fans may wonder whether they can use a hard disk attached to the SCSI card as a startup disk. Some almost reach a state of panic—after all, you can't boot from FireWire or USB devices, so what does that leave for startup options? Well, relax; you can indeed start up via the \$49 SCSI card, and via several other devices to boot. To help you through this tumultuous transition, here is a list of what the new G3s do and don't support in terms of startup devices.—RC

## BOOT

### IDE Bus

The new towers come with two internal IDE buses, a fast Ultra ATA one for the hard disk, and a regular one for the CD-ROM and Zip drives. Both are bootable.



### SCSI Card

Apple's build-to-order options include a \$49 Ultra SCSI card and a faster Ultra2 option. Both these PCI cards feature internal and external ports and let you boot from a SCSI hard disk. Other cards are available at retail outlets.



### Network

The new tower, like the iMac, looks at your network as part of the startup process. As a result, these new machines can "net-boot" from a Mac OS X server.



## NO BOOT

### USB

The plug-and-play wonder that made its debut in the iMac still doesn't provide booting capability, and this probably won't be changing soon.



### FireWire

As we go to press, you cannot use a FireWire hard drive as a startup drive. Apparently, this is a problem Apple needs to remedy by making the Mac check the FireWire bus at startup.



### Striped RAID

Right now, the new G3 cannot boot from a striped RAID array, though it can boot from a redundant array. Apple knows customers want bootable RAID, so expect a quick fix.



Illustration by Lloyd Dangle

## I Don't Want a New Hub

If that \$49 SCSI card from Apple doesn't meet your needs because you don't want to fill a PCI slot (or you own an iMac), the USB-to-SCSI adapters several vendors are developing may fit the bill better. Newer Technology's (<http://www.newertech.com>) uSCSI adapter is slated to come out in the next few months for \$79. Microtech (<http://www.microtechint.com>) has also announced an adapter called the XpressSCSI, likewise priced at \$79. A third vendor, plucky SecondWave (<http://www.2ndwave.com>), is also promising (coincidentally enough) a \$79 adapter called the ScusBee. Just keep in mind that such converters will only work for low-bandwidth devices such as scanners or printers. USB is slower than SCSI, and devices that need a fast connection—hard drives, CD-Rs, and the like—won't like the uSCSI, the XpressSCSI, or the ScusBee. And some slower devices may even suffer a performance hit from USB's lower bandwidth.

get info

## No QuickTime Like the Present

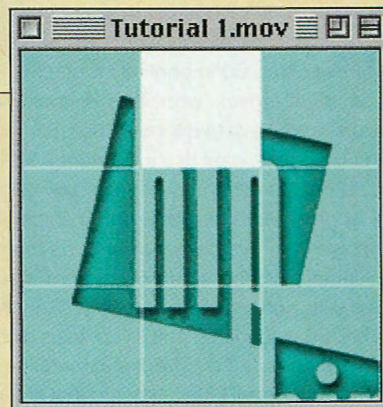
*New applications tap QuickTime 3's hidden power*

At press time, Apple is still being cagey about its next multimedia moves, tantalizing us with glimpses of a new version of QuickTime and its Final Cut Pro video editor. But while the world waits, third-party developers are still exploring the rich feature set of QuickTime 3.

Totally Hip's \$199.95 LiveStage (<http://www.totallyhip.com>) lets multimedia developers tap the programmability of QuickTime 3's sprite track. Sprites are images (either vector or bitmap) that can change their appearance, move about, and respond to user actions. Thanks to LiveStage's sprite-scripting capabilities, you can create any-

thing from fully functional buttons to complex arcade games, then export them as movies for the enjoyment of QuickTime 3 users on any platform.

QuickTime 3 added support for special effects, which it stores in a dedicated effects track and applies as you view the movie. VideoPrism, a video color-correction utility developed by Delta E (<http://www.delta-e.com>) and published by Terran Interactive (<http://www.terran.com>), extends QuickTime's effects to provide a complete suite of color adjustment tools, just like those found in Photoshop and other still image editors. VideoPrism uses the effects track for its own



OF TOTALLY HIP'S LIVESTAGE DEMOS, we particularly like the classic scramble puzzle.

color-correction filters—it doesn't modify your video data as you make your tweaks, so rerendering is unnecessary. Priced at \$399, its introductory price is just \$199.—MS



# get info

get info

## Closing the AGP Gap

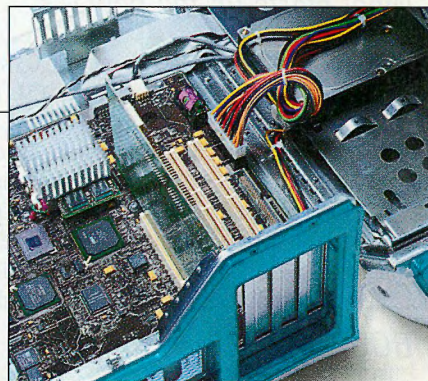
*New G3 PCI slot gets AGP benefits for little effort*

The graphics card in the new Power Mac G3's fourth PCI slot is something special—that Rage 128 chip pushes pixels like no other hardware out there. To those familiar with PCs, though, the slot devoted to the new graphics card looks awfully similar to the Accelerated Graphics Port (AGP) found on newer PC mother-

boards. AGP, an Intel-devised standard, is a way for graphics cards to get higher video performance while using the PC's main RAM for video memory.

Like AGP, the graphics slot in the blue-and-white Power Mac G3 tower is based on PCI, and it runs at 66MHz with a 32-bit data path. Essentially, the new slot functions like a 1X AGP slot, for those of you familiar with such devices.

So why isn't the new Mac's 66MHz PCI slot a full-fledged AGP slot? First, it lacks the ability to store textures in main memory. Second, it lacks the sideband addressing that can send instructions through a separate data channel. Third, the G3's graphics slot hits its limit at a data transfer rate of 266 MBps, while AGP also comes in faster 2X and 4X varieties that max out at 533 MBps and 1.07 GBps, respectively. How much of a speed difference does this make? According to our sources, in practice the new G3's graphics slot provides about 90 percent of the performance of 1X AGP, for



**WHO DREW THE SHORT SLOT?** The G3's new graphics card uses a fast PCI slot that sits on its own 66MHz bus.

about 10 percent of the engineering effort Apple would have had to invest to implement a full-blown AGP slot.

Will we ever see AGP on the Power Macintosh? "We are definitely interested in AGP, and are going to see how it plays in the market," said Kendall Laidlaw, Apple's Power Mac product manager—in other words, maybe, if it's popular enough and offers compelling advantages. In the meantime, other graphics card vendors are readying products for the new G3's existing slot.—DR

66MHz 32-bit PCI Slot



33MHz 64-bit PCI Slots



### *Pearls of wisdom culled from Apple's Tech Info Library*

Some ADB keyboards (namely the AppleDesign keyboard) don't allow owners of the new blue-and-white Power Mac G3 to boot into Open Firmware, so if you're the sort of übergeek who likes to poke around in Open Firmware, you'll have to do it with the USB keyboard that came with the G3—or at least use a different ADB keyboard.

Speaking of keyboards and the new G3, Apple notes that the blueberry-colored keyboard that ships with the blue-and-white Power Mac (yes, it's the same as the one bundled with the blueberry iMac) is different from the USB keyboard shipped with non-blueberry iMacs. It's the third generation of Apple's USB keyboard, and it contains some modifications specific to the new G3. The first-generation Apple USB keyboard was the Bondi blue keyboard that shipped with the original iMac. It's now discontinued, and you should use it only with the likewise discontinued Bondi blue iMac. The second-generation Apple USB keyboards are those that ship with the strawberry, tangerine, lime, and grape iMacs, and Apple says you should use these keyboards only with iMacs, not with the new G3.—DR

Source: Apple's Tech Info Library (<http://itil.info.apple.com>)—go visit and learn something new today.

## Coloring by Numbers

*iMac SKUs reflect cosmetic distinctions*

Life was so simple back when everything was beige. Now that Apple is juggling five different flavors of iMac, its bookkeeping must also adjust to the new polychromatic era. For now, the company is ducking the issue of relative popularity by requiring dealers to order the new iMacs in five-packs containing one of each color, but Chief Financial Officer Fred Anderson promises that dealers will one day be able to order 20 blueberries, 12 limes, and 2 tangerines. To aid retailers and customers in keeping track of the five different flavors, Apple has assigned each color a different stock-keeping unit (SKU) number.

However, this precision has its drawbacks. Research firm PC Data, which has dutifully reported the iMac as the top-selling personal computer almost every month since its introduction, will be tallying each SKU as a different product. It's unlikely that any single flavor will be able to claim the number one spot—though we wouldn't be surprised to see grape crack the top five.—MS

SKU	iMac Flavor	SKU	iMac Flavor
M6709LL/A	Original	M7391LL/A	Tangerine
M6709LL/B	Original, Rev. B	M7390LL/A	Grape
M7389LL/A	Strawberry	M7345LL/A	Blueberry
M7392LL/A	Lime		



## You Are Sooo Fired!

Like a colossus reborn, he emerged from the cultural debris of the savage 1980s to reclaim his leadership of the company he founded, taking it back to its roots with a product-oriented strategy, hands-on leadership, and cutting-edge advertising. Steve Jobs? No, we're talking about Jack, the clown-headed mascot of the Jack In The Box fast-food chain. Sure, we've laughed at the revived mascot's wacky TV commercials, but there's an eerie familiarity to Jack's career resurgence. Follow along with us as we underscore some of the bizarre parallels to the recent comeback of another pop-culture icon.—MS

## JOBS vs. JACK



Photo courtesy of Foodmaker

Cofounder and interim CEO, Apple Computer

Founder, Jack In The Box

Lives in Palo Alto, California, with wife and three children

Lives in La Jolla, California, with wife and son

Company founder forced out in 1985 by new, more adult corporate management

Company founder blown up in 1980 to signify new, more adult corporate direction

Returned in 1997 and forced out board of directors

Returned in 1995 and blew up board of directors

Television ads have won Clio and Emmy awards

Television ads have won Clio and Cannes awards

Television ads mock rival company mascots, especially dancing bunnies

Television ads mock rival company mascots, especially talking dogs

Known to fire employees on the spot for leaking information

Known to fire employees on the spot for questioning 99-cent burger pricing

Based on extensive customer research, eliminated floppy drive and non-USB expansion ports from the iMac

Based on extensive customer research, eliminated all ingredients except meat and cheese from the Ultimate Cheeseburger

Serves as chief executive officer of Apple Computer for a dollar

Can be purchased in the form of a car-antenna ball for 99 cents

## Clip 'n' Save

## Keeping Fit with Apple

Here's Apple's quick route to lifetime computer fitness. The company advises you to perform this maintenance regimen every month.

■ **Run Disk First Aid.** Apple's disk-repair utility can nip glitches in the bud.

the latest version of Drive Setup for Apple drives, or keep current with your favorite third-party utility.

■ **Scan for viruses.** Be sure your antiviral utility's definition files are up to date.

■ **Zap your PRAM:** Press Command-Option-P-R at startup, then listen for the second startup chime.

■ **Rebuild the desktop.** Hold down the Command and Option keys during startup to build fresh indices for the Finder.

■ **Back up your data.** Because, like omega's ads say, it's *your* stuff.

■ **Update your hard disk drivers.** Use

## The MacAddict Index

Average U.S. retail price of Apple computers in July and August 1998, respectively: \$1,945, \$1,405<sup>1</sup>

Average U.S. retail market share of Apple computers in July and August 1998, respectively: 2.1%, 6.6%<sup>1</sup>

Portion of Macromedia's revenues for the third fiscal quarter of 1999 derived from Web authoring products: 42%<sup>2</sup>

Portion of Macromedia's revenues for this quarter derived from Macintosh software sales: 42%<sup>2</sup>

Portion of Web surfers who find banner ads irritating: 7%<sup>3</sup>

Portion of Web surfers who find pop-up ad windows irritating: 15%<sup>3</sup>

### FOCUS ON: HOW MUCH WOULD YOU PAY?

Amount Compaq paid Jack Marshall in August 1998 for Altavista.com domain name: \$3.35 million<sup>4</sup>

Amount Compaq spent on research and development during fiscal year 1998: \$1,353 million<sup>5</sup>

Amount Microsoft spent on research and development during fiscal year 1998: \$2,502 million<sup>6</sup>

Amount Apple Computer spent on research and development during fiscal year 1998: \$303 million<sup>7</sup>

### FOCUS ON: GETTING HEAVY!

Number of times its own weight the new Power Mac G3's handles can support: 4<sup>7</sup>

Maximum monitor weight original Macintosh II case supported: 55 pounds<sup>7</sup>

Maximum monitor weight the desktop Power Mac G3 case supports: 70 pounds<sup>7</sup>

Maximum monitor weight the tough-as-they-come Macintosh Duo Dock II and Duo Dock Plus supported: 85 pounds<sup>7</sup>

### FOCUS ON: THE EVIL EMPIRE

Membership of Microsoft's Hotmail service as of December 8, 1998: More than 30 million<sup>8</sup>

Average Microsoft revenue per Windows-based system sold in 1990 and 1996, respectively: \$19.03, \$49.40<sup>8</sup>

Average Intel revenue per system sold in 1990 and 1996, respectively: \$108.41, \$236.37<sup>8</sup>

Amount donated by Microsoft to national election campaigns in 1997 and 1998, respectively: \$29,000, \$230,000<sup>9</sup>

Amount donated by William H. Gates III in December 1998 to immunize children in developing countries: \$100 million<sup>10</sup>

1 Source: ZD Market Intelligence; 2 Source: Macromedia

3 Source: IPSOS-ASI; 4 Source: San Jose Mercury News

5 Source: Compaq; 6 Source: Microsoft

7 Source: Apple Computer; 8 Source: Internal Microsoft memo

9 Source: Federal Election Commission; 10 Source: Washington Post





# scrapbook

Artful alliterations, punny jokes, fine rhymes, and stuff about the Mac, too.

## Getting to Know USB

by Mark Simmons

**A**fter a long dry season for early iMac adopters, peripheral vendors are at last cranking out gadgets for the iMac's newfangled Universal Serial Bus (USB). Now that the remodeled Power Mac G3s have confirmed USB's place as the low-bandwidth bus of the future, it's time for us to take a longer look at this recent addition to the Macintosh interface bestiary.

### The Service Entrance

Like the iMac's other ports, the twin USB connectors are tucked away behind the door on its right flank. Just pull down on the thumb hole, and the door pops right out. You'll often have to reach in here to restart a crashed iMac—even, we've found, with the improved revision B model. Sick of the paper-clip method? \$9.95 gets you one of Joseph C. Lee's nifty stick-on reset buttons—see <http://www.imacbutton.com>.

### Standard Equipment

The iMac and the new Power Mac G3 both ship with Apple's petite USB keyboard and infamous rounded mouse. MacAlly and Kensington offer alternative mice and keyboards (<http://www.macally.com> and <http://www.kensington.com>), or you can slip MacSense's iCatch over the Apple mouse to give it a more traditional form factor (see <http://www.macsensetech.com>).

### Control Issues

By embracing the cross-platform USB interface, Apple has positioned Mac owners to benefit from a flood of fancy new input devices. The GamePad Pro USB, a nifty new gamepad from Gravis (<http://www.gravis.com>), is just one of many options. Gamepads, joysticks, pen tablets, and the like typically don't require power adapters—the USB cable supplies enough juice for their needs.

### Hub Hubba

To hook up more than a couple of USB peripherals, you'll need a port-multiplying hub such as the Entrega model shown here (<http://www.entrega.com>). By our calculations, you'd need 21 seven-port hubs to hook up the theoretical maximum of 127 devices. Most third-party hubs have their own power supplies (not pictured), the better to provide the 500 milliamps of current guaranteed for each downstream peripheral.

### Ins and Outs

USB uses two distinct connector types. The rectangular ones are Type A connectors, which plug into your computer or an attached USB hub. The square ones are Type B connectors, which snap into the peripheral itself. You never need to fear that your cable is the wrong way around.

### The Age of Storage

Iomega's transparent USB Zip drive (<http://www.iomega.com>) is just the tip of the storage iceberg; other new or upcoming options include SuperDisk drives, floppy drives, hard drives, CD-RW devices, and even Castlwood Systems' legendarily vaporous Orb drive. However, USB's low bandwidth limits throughput to 1.5 MBps, and most USB storage devices max out around 1 MBps—a fraction of the performance of SCSI or IDE. Unlike FireWire, the USB connection doesn't provide enough juice for a storage device, so these all need their own power supplies (not pictured).



Photo by Aaron Lauer



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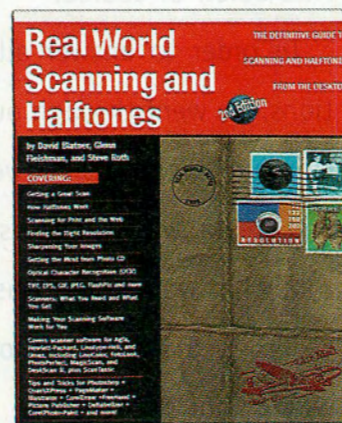
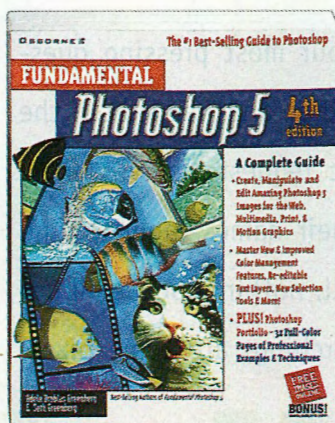
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MacAddict 4/99

AFB4





**W**hether you've got a Mac (or two, or more) or are just thinking about buying one, chances are you've got lots of questions and need advice. Who you gonna call to get the straight dope? *MacAddict*, of course!

In order to answer all of your most pressing questions, we went through our mailbag and weeded out the marriage proposals, Power Mac requests, silly stories, and freaks with numbers in their names, only to find that what we had left was—well, nothing. So we all got together, did a lot of soul-searching, ate some pizza, wrung our hands dramatically, and came up with a collection of the cosmic Mac questions that seem to resurface every year.

After careful research, tons of planning, and the inevitable coin toss, we think we've got the answers to your questions. Whether you're trying to decide what Mac to buy or waffling between a cathode-ray tube (CRT) and a flat-panel display, we've got the plan for you.

So if you're looking for advice, you've come to the right place. Prepare to put your mind at ease... .

More Mac  
Advice  
Than You  
Can Shake  
a Stick At!  
by Maria Langer

# MacAddict Advice Guide









# Should I Upgrade...

Here's the inside scoop on updating your Mac, system software, and applications, along with handy charts to help you decide whether to shell out the cash for the upgrade or just put up and shut up.

## ...My Mac

**W**hether you should upgrade your Macintosh depends on which Mac you have and what you're using it for. For example, if you have a Mac LC with the maximum 10MB of RAM and a 100MB hard disk, and you're trying to lay out a newspaper with it, stop. Take a vacation (you'll need it!), then come back and buy a new Mac. But if you're using that same Mac LC just to write short stories or hate mail to Microsoft, an upgrade probably isn't necessary.

Of course, you may need an upgrade—or even a brand-new Mac—if you want to run the latest versions of the Mac OS or your favorite software applications. These days, developers write most new Mac software to take advantage of the PowerPC processor. That means you need a Power Mac (original or G3) to run it. Although Mac OS 8.0 can run on an old 68040 Mac (such as a Quadra), it's not something you want to do unless you like staring at watch cursors. As for Mac OS 8.5, it won't even install on a Mac unless there's a PowerPC inside. And the latest versions of Photoshop, QuarkXPress, and (dare we say it?) Microsoft Office also require a PowerPC processor. It might be time to put that LC on a typewriter stand.

The point is, the more you want to do with your Mac and the more modern the software you want to run on it, the better off you are getting some kind of upgrade.

### If true

I purchased my Mac before the Berlin Wall came down, and I use it every day.

My Mac won't run the latest version of the Mac OS or my applications, and I just have to have them!

My Mac is so slow that I spend more time waiting to get work done than actually getting it done.

My Mac has less than 32MB of RAM.

My Mac displays lots of "Not enough memory" messages when I try to open applications or documents.

My hard disk is so full that I can't save any more files onto it.

I access the Internet at less than 14.4 Kbps.

I access the Internet at less than 19.2 Kbps.

### Do this

Buy a new Mac. You deserve it.

Buy a new Mac and stop whining!

Buy a processor upgrade for your Mac or buy a new Mac.

Buy more RAM.

Buy more RAM.

Buy a bigger internal hard drive, an external hard drive, or a removable media device such as a Zip or Jaz drive.

Buy a faster modem right away.

Buy a faster modem the next time you find a good deal.

## ...My System Software

**W**hether you should upgrade your system software depends on what kind of Mac you have and whether you want to take advantage of the new features the most up-to-date version of the Mac OS has to offer. For example, if you've got a brand new G3, there's no question: It's your duty as a Mac user to run the latest version of the Mac OS. Not only will it work best on your system, it has lots of cool features that the other versions lack. But if you've got that old LC you're using as an electronic typewriter, you simply can't upgrade to the latest OS.

You should also base your decision on how often you use your Mac and the age of your apps. Mac OS updates normally cost less than \$100, but if you seldom use your Mac, the new features might not be worth the money. Also, if you're running a lot of old applications, upgrading the system software may require you to upgrade one or more of the apps, too. The resulting upgrade domino effect could get costly. In any case, before you invest in a Mac OS upgrade, be sure to read the system requirements to make sure it will run on your Mac model.

### If true

I just want the latest and greatest version of the Mac OS.

I use my Mac regularly and want it to run the best it can.

I heard there's a maintenance release for the Mac OS version installed on my Mac.

### Do this

Go get it. Just remember that you might have to upgrade your Mac to support it.

Update to the latest version of Mac OS that your Mac supports. Check out Apple's Web site at <http://www.apple.com/support/>.

Get it and install it. It will make your Mac run better.

Apple also periodically releases maintenance updates for the Mac OS. For example, Apple released Mac OS 8.5 in October and version 8.5.1 in December. The updater, which Apple's Web site (<http://www.apple.com/macos>) offered free, fixed some potentially serious problems with Mac OS 8.5. If you're running OS 8.5, go get it!



## ...My Applications

**W**hether you should upgrade your applications depends on what kind of Mac you have, what version of the system software it's running, and whether you want to take advantage of the program's new features. Like system software, applications have certain system requirements. If your Mac doesn't meet those minimums, you'll have to upgrade your Mac and/or system software first, then upgrade the application. This can be costly.

Application upgrades range from minor interface changes with a few new features, to a complete overhaul of the program. Look at the difference between Photoshop 4 and 5: The new version adds a few new features, including editable text and new color management. Are those changes worth \$199 to you? Now look at the difference between Word 6 and Word 98: a more Mac-style interface combined with dozens of new features. Are those changes worth the \$149 upgrade fee? It's your money and your decision—if you think the new features are worth the price of the upgrade and your computer can support it, then go for it.

As for maintenance releases, you should *always* obtain and install them when they're free. They fix problems you may already be encountering, and they'll make the software run better. If you have access to the Web, check the Web sites for the software products you use most to make sure

### If true

I want to take advantage of an app's new features even if my Mac won't support it without upgrades. I don't care what it costs me.

I want to take advantage of the new features in an app my Mac supports. I think it's worth the upgrade price.

I think it's outrageous that software upgrades cost so much.

I heard there's a free maintenance release for the version of an app I have installed on my Mac.

### Do this

Buy the upgrade. Be prepared to produce cash or plastic to pay for required hardware or system software upgrades to support it.

Buy the upgrade.

Don't upgrade.

Get it and install it. It will make the application run more smoothly.

you have any new maintenance releases. Some companies offer to put you on an email list that automatically notifies you about changes to its products—that might be something to consider if you can't find time to check manually for update news. A couple of places to look are at MacFixIt (<http://www.macfixit.com>), which posts reports of whether the latest updates play nice, and Version Tracker (<http://www.versiontracker.com>), which lists updates to almost every piece of software out there. And, of course, there's always the MacAddict Disc for your occasional upgrade needs.

## Should I Ban Microsoft (Even If Its Products Are Good)?

The decision to ban Microsoft is a personal one you should base on your individual feelings—not on an item you read in a magazine or hear from a friend. To help you get in touch with these feelings and decide for yourself, we've prepared this simple quiz. Answer each question honestly and use the scorecard at the end to make your final decision.

### 1. The software in my Mac includes:

- a) Just the most recent versions of all Claris products, including MacWrite Pro, Resolve, and HyperCard.
- b) A mixture of products from Apple, Claris, FileMaker, Adobe, and Microsoft.
- c) Just the Microsoft Office 98 Gold Edition suite of products.

### 2. On the wall near my computer, I have a picture of:

- a) Steve Jobs standing in front of Apple's corporate headquarters in Cupertino.
- b) My (choose one) wife/husband/girlfriend/boyfriend/kid/mother/father/pet
- c) Bill Gates in front of his mansion.

### 3. One of my favorite books is:

- a) *Insanely Great: The Life and Times of Macintosh, the Computer That Changed Everything* by Steven Levy.

- b) The latest bestseller by John Grisham.
- c) *The Road Ahead* by Bill Gates.

### 4. If I could live anywhere in the world, it would be:

- a) In Cupertino, California, within view of Apple's corporate headquarters. I'd also make friends with as many Apple employees as possible so I'd have a chance to eat at the employee cafeteria and spot famous Apple execs like Steve and Avi.
- b) In a place where my family and I could live stress free, surrounded by nature, yet close enough to a major city to enjoy cultural events such as theater, concerts, and professional sports.
- c) In Redmond, Washington, close to Microsoft's corporate headquarters. I'd also spend a lot of time driving around the Microsoft campus to pick up the powerful cosmic vibrations coming from the building.

### 5. My thoughts on the Microsoft antitrust trial are:

- a) Microsoft is an evil empire that should be disbanded. Microsoft headquarters should be burned to cinders, and the ground it occupied sprinkled with salt to ensure that nothing

grows there again.

- b) Microsoft, like most aggressive businesses, is just trying to expand its market share. Its alleged use of threats merely indicates that it may be a bit too aggressive.
- c) Microsoft hasn't done anything wrong. I don't understand why it isn't the only software company in existence. The government should leave it alone and Bill Gates should run for president.

### Scoring Chart

Score your answers as follows: a = 1, b = 2, c = 3. Add the scores to arrive at a total. Then make your decision based on the following scores:

**5** It is your duty to ban Microsoft no matter how good its products are. You might also consider volunteering for salt-sprinkling duty in Redmond.

**6-10** Buy the Microsoft products that are right for you. Don't tell any friends who scored 5 on this test.

**11-15** Buy all Microsoft products, regardless of whether they're good or whether you really need them. Consider starting—and running—the Bill Gates fan club.





# Which Mac Should I Buy?



Your problems are our problems and they're always on our minds. Follow the thought bubbles to their logical conclusions to find out which Mac best suits your needs.

## The Best of the Best

### Best Value: iMac

If you're looking for a Mac that'll do just about everything except drain your finances, the iMac is what you seek. Its cute little box, available in five delicious colors, includes everything you need to compute—and surf the 'Net—the Macintosh way. All for just \$1,199. We can't say enough nice things about this nifty little computer.

### Best Portable: G3/233 PowerBook (14.1-inch display)

Any G3 PowerBook will do the job, but the G3/233 provides the features you need—like the 14.1-inch display—without charging you for the extra speed higher-end models offer. Made to rival your desktop or tower in terms of power, it's available for a reasonable \$2,499.

### Most Expandable: G3 tower (with an expansion chassis)

All of the current G3 minitowers offer expansion options: up to 1GB RAM, three empty PCI slots (a fourth one contains the ATI Rage 128 card), and room for additional devices such as Zip drives or additional hard drives. With prices starting at \$1,599, you're ready for the future at an affordable price.

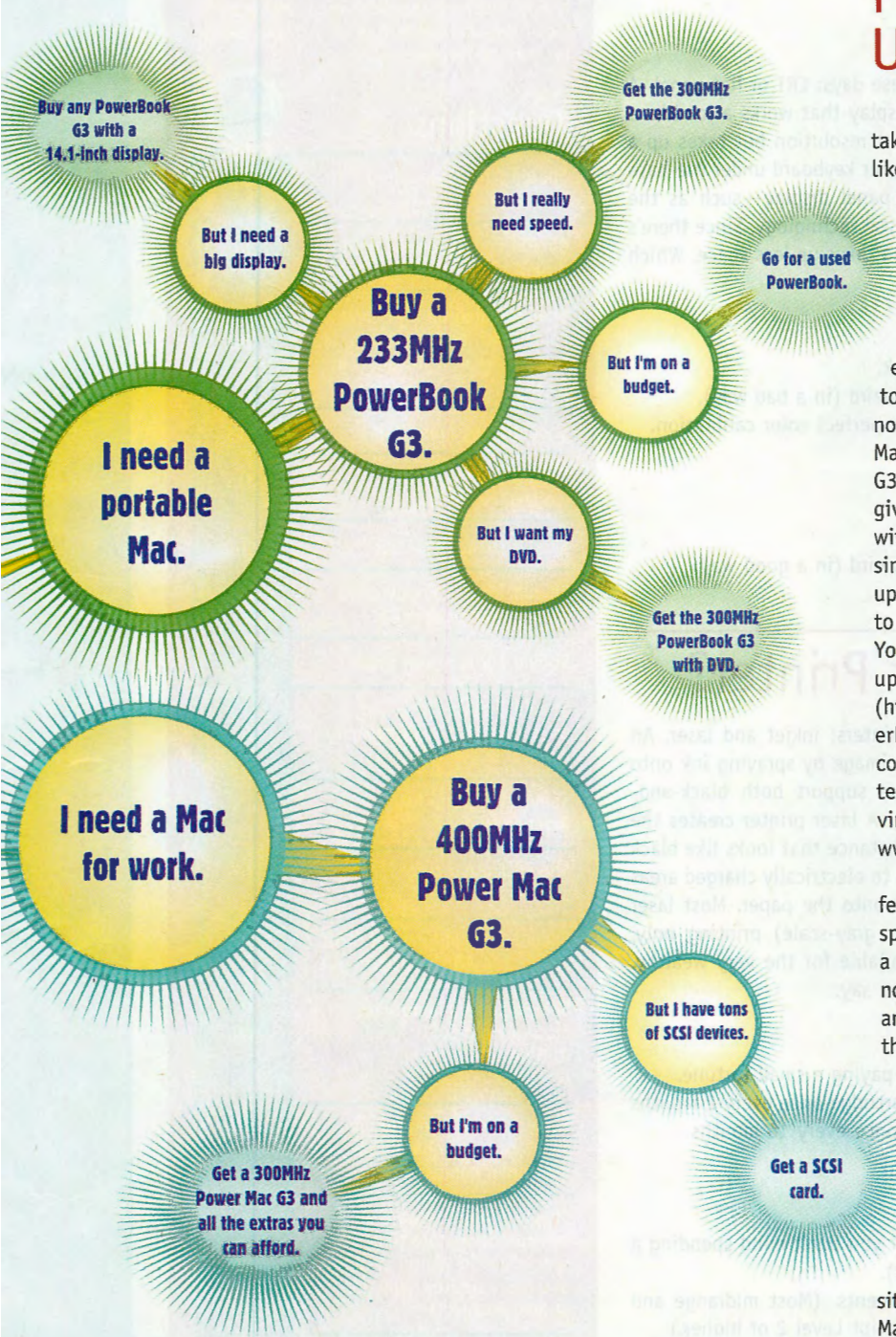


# Should I Try a Processor Upgrade?

Processor upgrades offer a way to take an old Mac and make it work like a newer one. Although they don't usually make the Mac run as well as the latest and greatest G3, they don't cost as much.

Sometimes a processor upgrade offers benefits you can't get with a new G3. For example, if you have a need for a ton of expansion slots, you might not want to get rid of that Power Mac 9500. Upgrading that 9500 to a G3 via a processor upgrade card will give you most of the benefits of a G3 without the loss of any slots. And since you've also probably loaded it up with tons of RAM, you won't have to throw away your RAM investment. You can find info on processor upgrades at Newer Technology (<http://www.newertech.com>), PowerLogix (<http://www.powerlogix.com>), Sonnet (<http://www.sonnet-tech.com>), Vimage (<http://www.vimagestore.com>) and XLR8 (<http://www.xlr8.com>).

However, though upgrades add a few extra years to your Mac's life span, they can't turn an old Mac into a new one. New Macs use new technology, such as USB, PCI, FireWire, and ATI Rage. As Mac users adopt these technologies, old SCSI, serial, and ADB peripherals will be harder to find. In some situations, the upgrade card won't work with certain software. Mac OS X Server and Connectix Virtual GameStation won't run on G3-upgraded Macs—they only work on born-and-raised G3s. In these situations, you'll have to buy a new Mac to use the latest technologies.



## Fastest Mac: G3/400

If speed is what you need, look at the top-of-the-line G3: the blazingly fast 400MHz G3 minitower. This machine is stuffed with goodies and has room for lots more. It sets you back \$2,519—not bad when you consider what you're getting.

## Best for Games: G3/400

All the current Mac models can run all the games you want to play—with the benefit of ATI Rage graphics acceleration. For really demanding games, however, buy the 400MHz blue-and-white G3 minitower and add a MicroConversions GameWizard Voodoo 2 card (about \$199). Then go kick some butt.

## Best Typewriter: Mac SE/30

Our favorite Mac model of all time is the Mac SE/30, which first hit the streets back in 1989. Yes, it's hopelessly out of date, and it didn't even come with a color monitor. But it had plenty of punch (for its day) packed into a little box. Nowadays, it would make a great typewriter. Just install System 7.1 with Word 5.1 and it's ready to roll.

Illustration by Jeff Titterton





## CRT or Flat-Panel Display?

**D**isplays come in two flavors these days: CRT or flat panel. A CRT is a standard computer display that works a lot like a television screen. It offers great resolution but takes up a lot of space. (At least you can slide your keyboard under the base on the new Apple displays.) A flat-panel display—such as the ones on PowerBooks—uses liquid crystal technology. Since there's no picture tube, the display is flat and takes up less space. Which should you buy? Here's our advice:

### Buy a CRT if:

- You're on a limited budget.
- You have lots of space on your desk.
- You think flat-panel displays look weird (in a bad way).
- You are a graphic artist and require perfect color calibration.

### Buy a flat-panel display if:

- Money is no object.
- Your desk is extremely small.
- You think flat-panel displays look weird (in a good way).
- Any old blue looks the same to you.

## Inkjet or Laser Printer?

**T**here are two basic types of printers: inkjet and laser. An inkjet printer creates the page image by spraying ink onto the paper. Most inkjet printers support both black-and-white (gray-scale) and color printing. A laser printer creates the page image by spreading toner (a substance that looks like black dust) over the paper. The toner sticks to electrically charged areas of the paper, and heat then seals it onto the paper. Most laser printers support black-and-white (or gray-scale) printing only, although color laser printers are available for the very wealthy. Which should you buy? Here's what we say:

### Buy an inkjet printer if:

- You're on a tight budget.
- You want to print in color without paying a small fortune.
- You prefer changing a \$20 inkjet cartridge once every 2 months to changing a \$70 toner cartridge once every 18 months.

### Buy a laser printer if:

- Money is no object.
- You never need to print in color (or you don't mind spending a small fortune for a color laser printer).
- You need to print PostScript documents. (Most midrange and high-end laser printers support PostScript Level 2 or higher.)
- You need clear, crisp printouts that won't wash out (literally) with water.
- You like to print on slightly textured paper.
- You'd prefer changing a \$70 toner cartridge once every 18 months to changing a \$20 inkjet cartridge once every 2 months.

Maria Langer, who has written over 20 computer books since 1992, is most recently responsible for *Mac OS 8.5 Visual QuickStart Guide* from Peachpit Press. Visit Maria on the Web at <http://www.gilesrd.com/mlanger>.

## Quickie Questions

Here are a few more questions that shouldn't require much of an explanation. We've provided the answers in this easy-to-use table for your convenience.



### Questions

Should I buy integrated software?	NO
Should I partition my hard drive?	NO
Should I load up my System Folder with as many fonts and shareware extensions as I can?	NO
Should I buy more RAM?	YES
Should I buy a faster modem?	YES
Should I read <i>MacAddict</i> ?	DUH
Should I buy a floppy drive for my iMac or new G3?	YES
Should I join a user group?	YES
Should I get a Zip or Jaz drive (or other high-capacity removable media)?	YES
Should I sign up for America Online?	ICK!
Should I use a surge suppressor?	YES
Should I discard my old SCSI, serial, and ADB devices?	NO
Should I use adapters to make my old SCSI, serial, or ADB devices work with my new iMac or G3?	YES
Should I buy hardware and software from reputable mail-order companies?	YES
Should I buy hardware and software in a store that specializes in Wintel systems and has a limited selection of Mac products?	NO
Should I use virus protection software?	YES
Should I back up my hard disk regularly?	YES
Should I regularly use disk diagnosis and repair software such as Disk First Aid or Norton Utilities?	YES



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# do-it yourself mac OS practical

by Todd Stauffer

Everybody loves a joker, right? Someone who can bring humor and a touch of playfulness to any situation. And let's face it—the funniest joke of all is the practical joke. After all, there's nothing like the satisfaction of a prank played with a deft hand.

Of course, the only people who really appreciate a practical joke are those to whom it doesn't happen. Play too many and you'll be a social pariah, scorned in almost every social circle. And if you play pranks on unsuspecting Mac users, pretty soon they'll grow to fear you.

So how do you go about being the scourge of your local Mac community? Sure, you could head to Mac Curios (<http://www.mac-curios.com>) and download Owen W. Linzmayer's Macintosh Joker. Or you could head to <http://www.machacks.com> and find downloadable programs for causing mayhem. But where's the fun in that? Build your own jokes!

The hallmark of a truly great practical joke is its good nature—it generates lots of fun without causing any real damage. The jokes we're giving you are pretty harmless, but any time you play one of these pranks, there's always a risk of losing data. Be careful.

There's another risk, too—one that could hit Mac addicts where it hurts: Some of these jokes may make a user think the Mac is broken, less than intuitive, or otherwise not as cool as it really is. So you'll have to do some fast talking to convince your victim not to badmouth the Macintosh. We've included a Broke Mac meter for each joke to rate how likely the recipients are to start yelling about how none of this stuff ever happened when they had Windows. We've also thrown in quick fixes to calm the truly ticked. But be warned: You could get fired, grounded, or have, er, favors withheld. Your decisions are your own.



# Outselves tical Jokes

## • The Joke: Internet Assist



The new Internet Control Panel—based on Internet Config—is a great resource that really makes the Mac stand out from the crowd.

It's a convenient place for adding your default email addresses, your home page, and even your favorite background color for Web pages. You can also decide which helper applications to use for what sort of links on the Web.

So here's the joke. What if the email, file, or even Web links all went to the wrong program—say, to Madeline Learns the Alphabet (or a suitable shareware alternative)? Wouldn't that annoy your coworkers to no end?

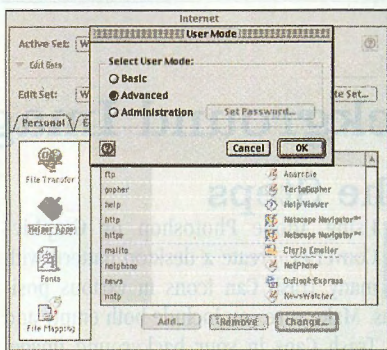
**RESOURCES NEEDED:** Mac OS 8.5, or any OS running Internet Config

**Note:** If you change the http helper, the new program will load every time the user attempts to click a hypertext link. That may prove too overwhelming for a good joke—bizarre loading of an annoying children's game *every so often* is funnier. On pre-8.5 systems, you can use Internet Config to set helper file mappings.

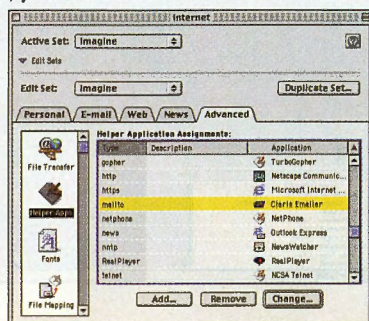
**Fix:** Change the helper program mapping back to the proper Internet programs. The mailto setting, for instance, should be the user's default email program—for example, Outlook Express or Claris EMailer.

### The Steps

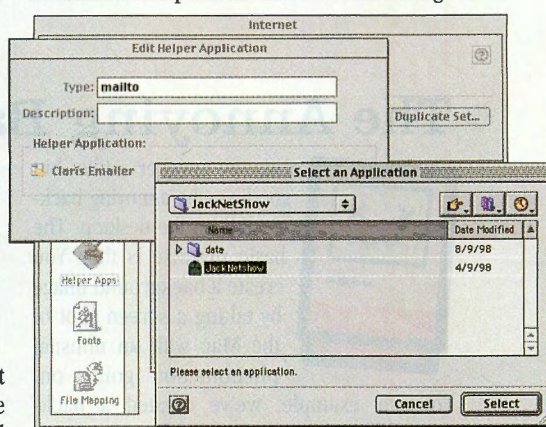
**1** Open Control Panels and choose Internet (in Mac OS 8.5). Select Edit, User Mode. Choose the Advanced button and click OK. This lets you edit helper-application mappings—that is, what happens when a user clicks on a link.



**2** Click the Advanced tab in the Internet Control Panel, and then click the Helper Apps icon in the left-hand window. Highlight the type of file (start with "mailto") and click Change. By selectively swapping around settings in this Control Panel, you can create some real confusion.



**3** Use the Select dialog box to find an appropriately oddball program to load whenever your user clicks a mailto link. Remember that an AppleScript will work, too. Search for the new application you want to associate with that helper type, and click OK when you find it. Oh, and make sure you set the user's browser preferences to Internet Config.



That's it. Now when your subject clicks a mailto URL on the Web, the Mac automatically loads the program of your choice. This can be funny if the program is an annoying kid's game you've installed on the subject's computer, an AppleScript that launches an irritating sound or QuickTime movie, or a script that gives your pal some sort of horrible (or silly) error message.



## ● The Fake Home Page



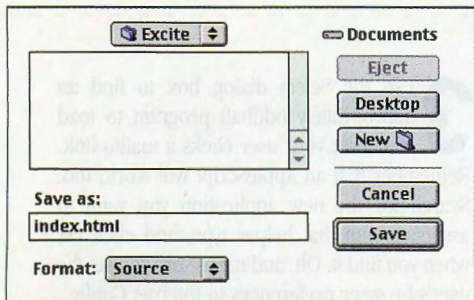
Is there a certain sophistication to your wit? Then you may like this one. It's more style than glitz, although it'll take some effort. The joke is to swap your victim's home (default) page.

First, you'll need to ascertain what she uses for a home page. Here's the trick: You're going to download the page, edit it to taste, and set the edited version as the subject's home page.

**RESOURCES NEEDED:** Any Mac OS

### The Steps

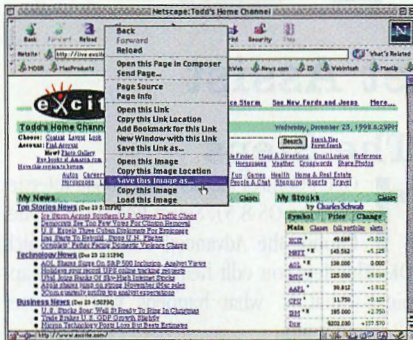
**1** Open the subject's browser and test to see if she has a special home page. If she doesn't, you can choose one, but this joke may not work as well. If she does, bookmark it.



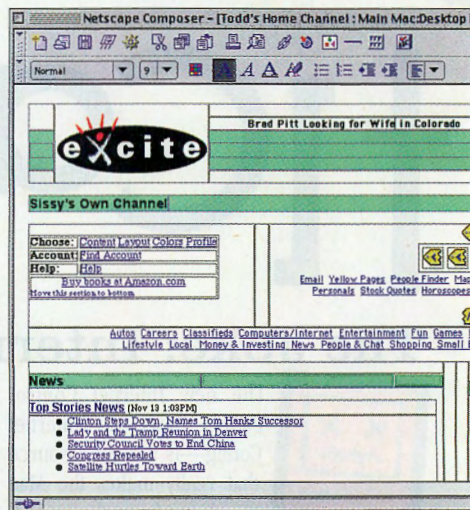
Save the HTML source of the page to a folder on the hard drive. In your browser, choose File, Save As and make sure to specify Source or HTML Source. Save it as index.html.

**2** Now open a *second* window in your browser and load the source document you just saved. Compare the two pages—the live online page and the source page. Note which images you need to download. You may need to grab images off the Web to build a mirror home page with local HTML and images.

**3** Place the images on the page and edit the text and links so that it's funny. (Nobody said this wouldn't take some effort.) On the live online page, download the images you need. You can usually Control-click (in Mac OS 8.0 and above), or hold down the mouse button on top of an image to get a menu that can save it to disk.

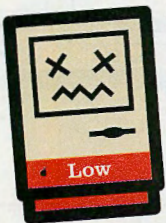


**4** Now you'll need to edit your saved document. Using an HTML editor such as Netscape Composer or the PageSpinner shareware—or BBEdit, if you know HTML coding—make sure all the <img> tags point to the images you've downloaded to the hard drive. Next, edit the page to make it funny. Change the news stories, stock quotes, horoscopes, and so on. It may look like a regular home page, but when read closely it reveals the gems hidden within.



**5** Set the page as the home or default page. First select the "file:/// URL that appears when you view the saved page.

## ● The Annoying Background Image



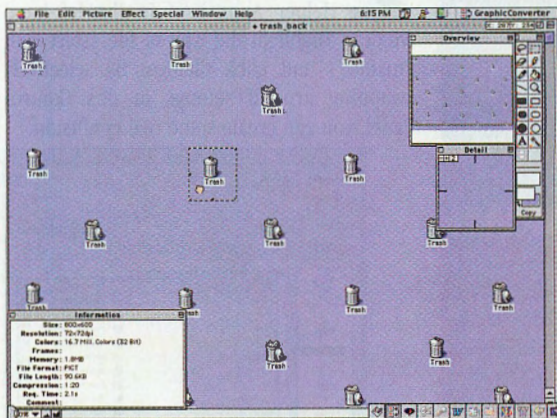
This is another oldie but goodie—the annoying background on the desktop. The basic premise is this: You create a background image by taking a screenshot of the Mac with an unusual phenomenon going on.

For our example, we've created a background pattern with a bunch of Trash Cans as camouflage. You can do other things, such as taking a screenshot of an error dialog box and using it as a background pattern. Untold hilarity ensues when the user tries to click on a dialog box that's just a PICT. In this case, when your victim goes to throw a file away, watch with amusement as he tries to find the *real* Trash Can.

**RESOURCES NEEDED:** Mac OS 7.6 or later

### The Steps

**1** Using Adobe Photoshop or GraphicConverter, create a desktop pattern with many Trash Can icons in various positions. Make sure you include both empty and full Trash Cans in your background image. Otherwise, your joke recipient will quickly be able to figure out which is the real Trash Can.




**2** Open the Appearance Manager and choose the Desktop tab. (Pre-OS 8.5 users: Open the Desktop Patterns control panel, click the Picture button, and follow along.) Click the Place Picture (or Select Picture) button and find the image you just created. Click the Choose (or Open) button, then click Set Desktop and close the control panel. Place the real Trash Can in an odd place within the pattern.

Here's the final product, ready to scare and frustrate. This is a great trick to play on a coworker when he first arrives in the office and turns on his Mac. Watch for at least 15 minutes of pre-coffee confusion.



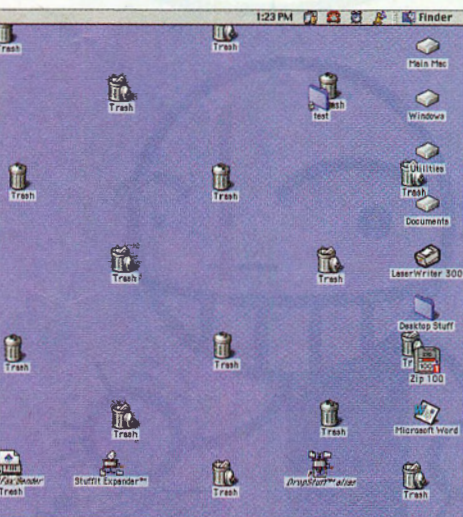
# Scriptable Folder Actions

Then go to the browser's preferences and paste that URL into the Home Page setting. You may also want to paste it into the Home Page listing in the Internet Control Panel (it's on the Web tab) or use Internet Config (pre-OS 8.5). Note that you can hide the Location bar in your victim's browser so that the telltale address doesn't appear.

Go To:  file:///Documents/Excite/index.html

You can test the browser one more time by clicking the Home button. If your fake home page loads, you've attained sweet success! Remember, this one takes cunning, cleverness, and a real sense of humor. If all you have is a destructive streak, try a different trick.

**Fix:** Change the home page back to the original site's URL, using the bookmark you created. Cut the home page URL from the Location bar and paste it into the Home Page text box on the Web tab in the Internet control panel. If you changed your victim's browser preferences, you should put those back, too.



**Fix:** Remove the offending background image in the Appearance control panel. Open the Appearance Manager, choose the Desktop tab, and click the Remove Picture button. Click Set Desktop, then close the Appearance control panel.



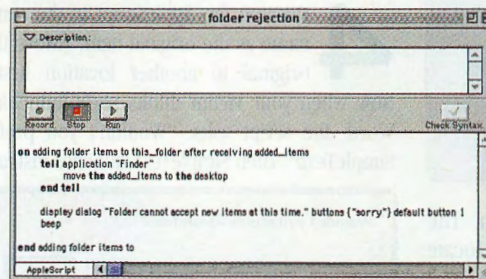
Script hack to Actions involving a folder.

Our joke is visual—a folder that won't allow your subject to put anything into it. This works best if the folder is on the desktop or nested in a folder that's often opened in the Finder (instead of being sprung open in Mac OS 8.0 or later). When your victim drags an icon onto the folder and drops it in, the folder puts the document back on the desktop and says, "Folder cannot open new items. Sorry."

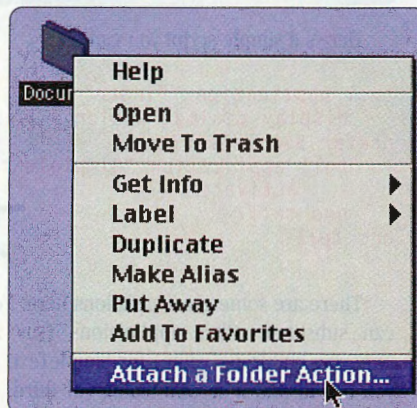
**RESOURCES NEEDED:** Mac OS 8.5 or later

## The Steps

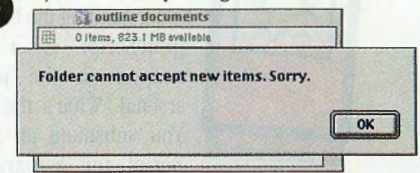
**1** Create your folder script in the Script Editor. You can examine other Apple-provided folder scripts to get a feel for how they work. (For all you scripters out there, folder scripts are all about event handling—dealing with mouse-clicks and mouse-overs.)



**2** Control-click the folder you've chosen. Select Attach a Folder Action from the contextual menu. Open the script you've created for this purpose.



**3** Try to drop something in *this* folder, and rejection is all you'll get.



The script is attached to the folder. The small script badge added to the folder's icon may give your joke away—but, then, you don't want to be *too* devious.

So what script to use? Here's an easy one adapted from the Add-Reject Items script in the Folder Scripts folder (you'll find it in Scripts, in the System Folder):

```
on adding folder items to
this_folder
after receiving added_items
tell application "Finder"
move the added_items to
the desktop
end tell

display dialog "Folder cannot
accept new items at this time."
buttons {"sorry"} default button 1
beep

end adding folder items to
```

Remember—when you save your prank folder script, save it as a compiled script, not as an application. The Finder can only attach compiled scripts to folders, not applications, so if you don't save the script in the proper format, you won't be able to attach it to the folder. Then the joke would be on you, and nobody wants that, right? Well, except perhaps your victim.

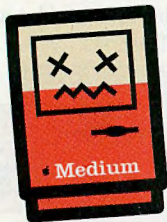
**Note:** The receiving folder must be open for this to work. If you just drop a file on the folder icon when the folder is closed, the file will stay where it is. (That can actually enhance the subject's confusion, of course.)

**Fix:** Control-click the folder and choose Remove a Folder Action from the contextual menu. Another menu will pop up, allowing you to choose the script's name. Select the one you want to remove (if more than one script is attached), and it's gone.

jokes



# AppleScript Masquerade



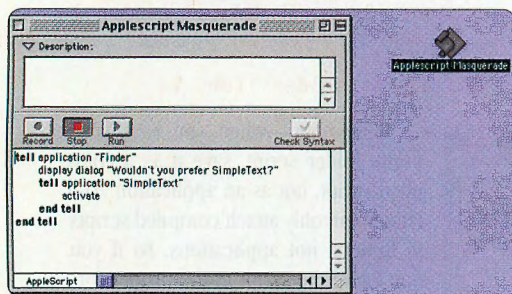
This isn't just a joke; it's a tool of the joking trade. Understanding the basics of AppleScript is a huge weapon in the jester's arsenal. What's the trick? You substitute an AppleScript for a particular

document, application, or folder, using the same name and icon. The result: Your target launches what he thinks is a program, but ends up loading some sort of AppleScript.

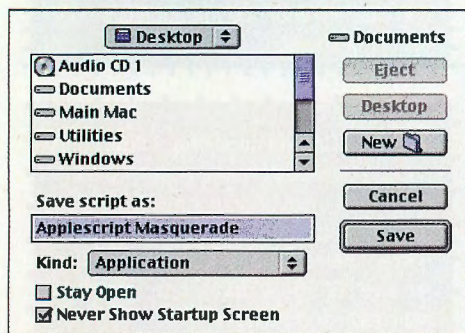
**RESOURCES NEEDED:** System 7.5 or later

## The Steps

**1** By writing a simple AppleScript, saving it as an application, and giving it the same name and icon as an application, you can substitute one for the other. Using the Script Editor, create an AppleScript that does something interesting. You may want to make sure the script ends by actually launching the real program, but that's your call.

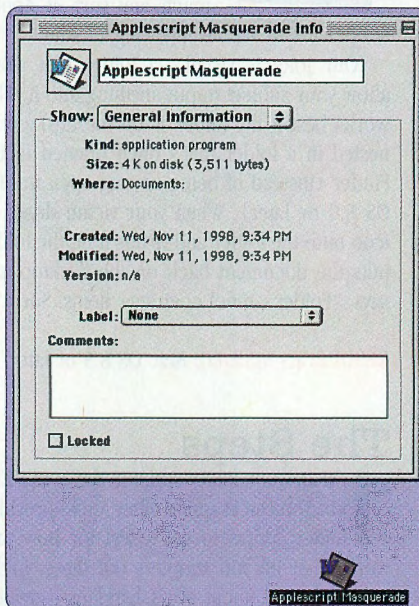


**2** Click the Check Syntax button. The Script Editor will ask you to locate SimpleText on the hard drive. Do that now, as you don't want your victim to be asked to find SimpleText at run time. Save the AppleScript as an application and, in the Save As dialog box, choose Never Show Startup Screen. Otherwise, the startup screen will be a dead giveaway to your prank.

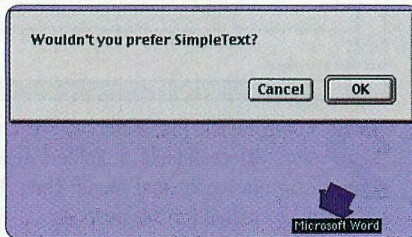


**3** With the script created, you need to substitute an icon—in this case, Microsoft Word's—for your script's

standard icon. Do a Get Info on the item for which your AppleScript is substituting. Select that item's icon in the Get Info dialog box and press Command-C to copy it. Open the Get Info window for the AppleScript and select the script's icon. Press Command-P to paste the icon. Close both Get Info windows.



**4** Rename the AppleScript to the same name as the original item. (Move the original to another location first.) Now when your victim thinks she's launching Word, the script asks, "Wouldn't you prefer SimpleText?" Then SimpleText launches instead.



Here's a simple script you can use:

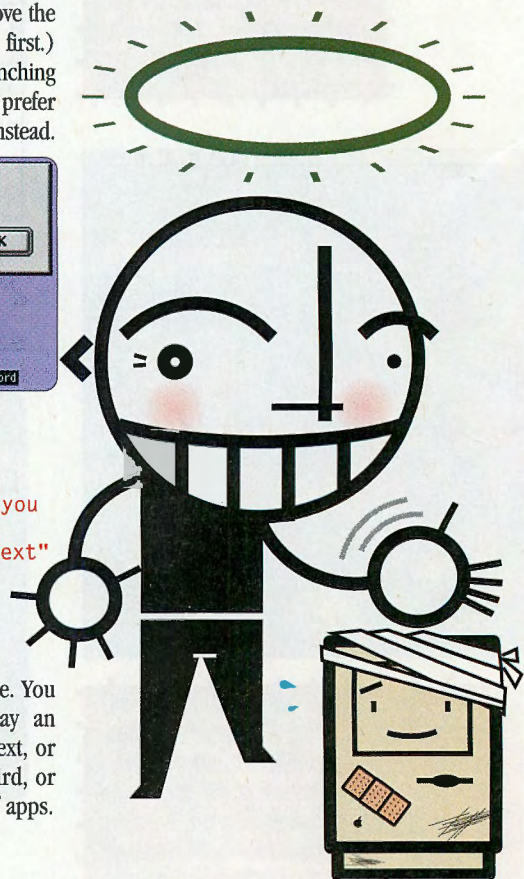
```
tell application "Finder"
    display dialog "Wouldn't you
    prefer SimpleText?"
    tell application "SimpleText"
        activate
    end tell
end tell
```

There are some great variations here. You can substitute other applications (say an annoying children's game) for SimpleText, or you can display a second dialog (or third, or fourth) deriding your victim's choice of apps.

**Note:** To learn more about the scriptability of a particular application or control panel, choose File, Open Dictionary in the Script Editor. Search for the application or control panel you want to script. Highlight it and click OK to see its AppleScript dictionary. (AppleScript is way too big a topic to delve into here; you'll need to refer back to one of our AppleScript tutorials, such as "AppleScript Boot Camp" (May/98, p28).

**Fix:** To fix this one, you just replace the AppleScript's icon with the old application's icon. (You didn't trash that application, did you?) To avoid confusion, rename the AppleScript icon and put it back in the AppleScript folder (in Apple Extras) or somewhere else where it's out of harm's way and won't pop up again accidentally after the joke is over.

Todd Stauffer (<http://www.mac-upgrade.com>) is the author of *Mac Upgrade and Repair Bible* from IDG Books and of *Complete Idiot's Guide to Mac OS 8.5* from Alpha Books. He also cohosts the *Disk Doctors* television show, which airs nationally Thursdays at 8:30 p.m. ET and PT on Knowledge TV.





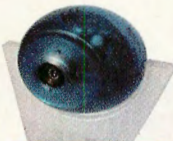
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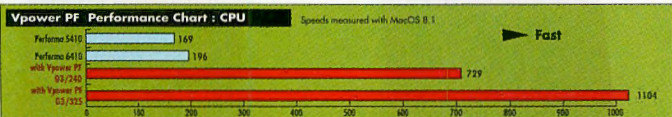
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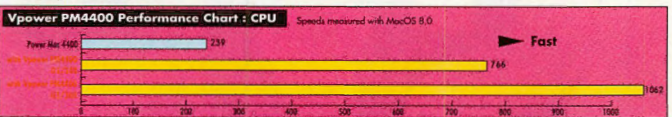
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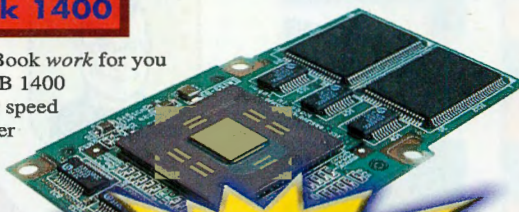
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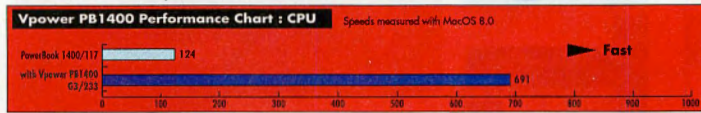


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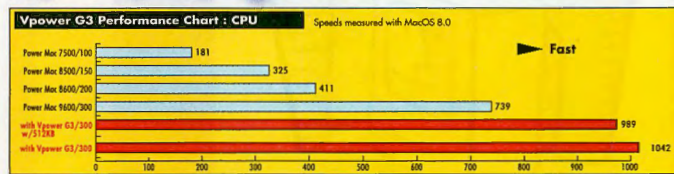
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Vpower PB 1400 G3/233	Power Book 1400	G3/233MHz	512KB/117MHz	\$ 499
Vpower PM 4400 G3/240	Power Mac 4400 Motorola Star Max 3000, 4000	G3/240MHz	512KB/120MHz	\$ 499
Vpower PM 4400 G3/300	Power Mac 4400 Motorola Star Max 3000, 4000	G3/300MHz	1MB/150MHz	\$ 899
Vpower PF G3/240	Power Macintosh/Performa 54xx, 55xx, 64xx, 65xx, 20th Anniversary Super Mac C500	G3/240MHz	512KB/120MHz	\$ 499

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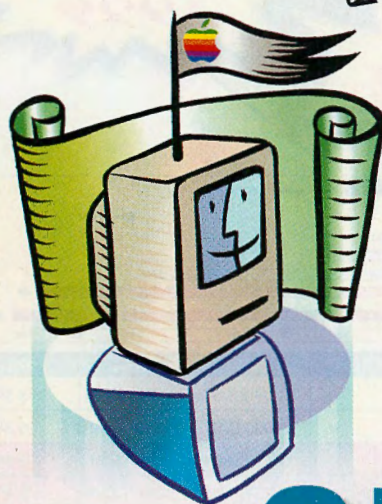
top 10

MAC  
ULTIMATE

steve jobs



history



top

10  
lists

OF ALL TIME

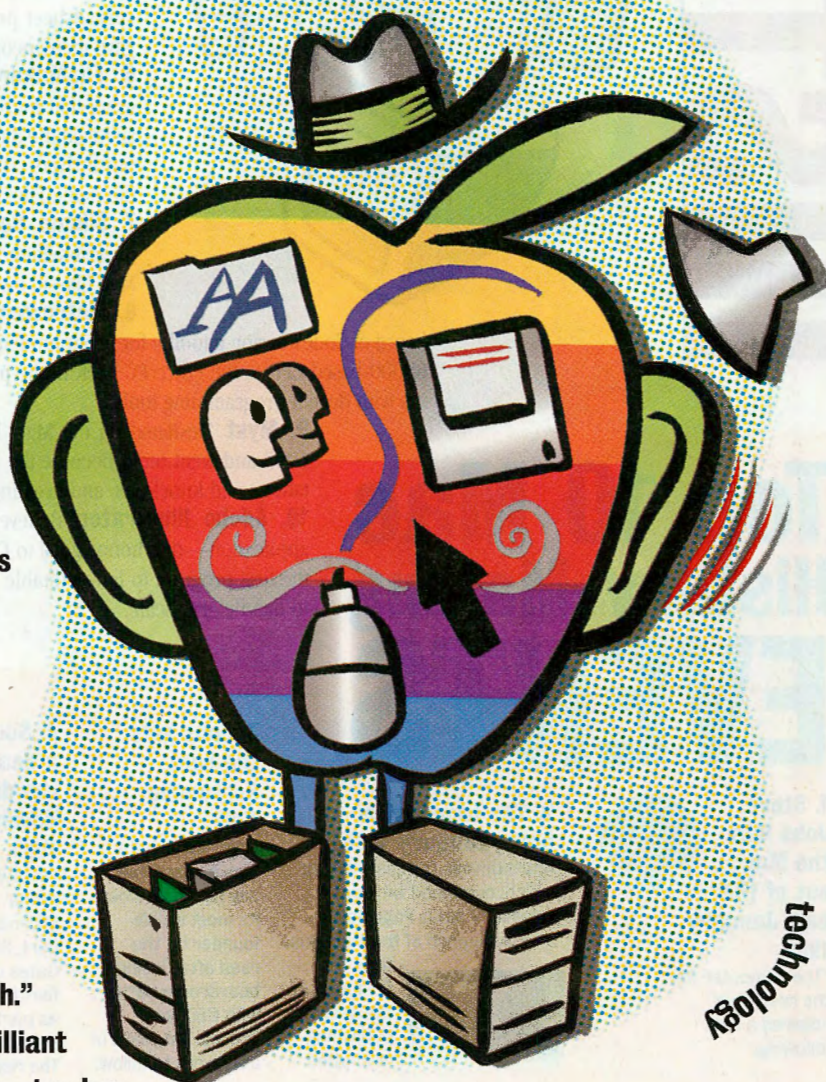
by the MacAddict Staff and Owen W. Linzmayer



# TOP 10 REASONS We're Publishing These Top 10 Lists

top 10

1. The Prison Guy made us do it.
2. We wanted an excuse to use the neat numbering feature in Word 98.
3. Top 10 works better than Top Baker's Dozen.
4. Everyone loves a Top 10 list...or is it everyone loves a clown...or is it everyone hates Bill Gates? Oh, who cares.
5. Most of us can't count much higher than 10 without using third-party add-on peripherals.
6. It was actually David Letterman who replaced Cheryl England as editor in chief, not David Reynolds as we originally reported.
7. It's 10 times the fun!
8. You asked for it! OK, you didn't. But we bet you would've if you had thought of it first.
9. Our original nine-page clip art tutorial was all set to go to the printer on a Zip cartridge when it fell victim to the "click of death."
10. Nikki had another one of her brilliant ideas and Dave was too drunk to stop her.

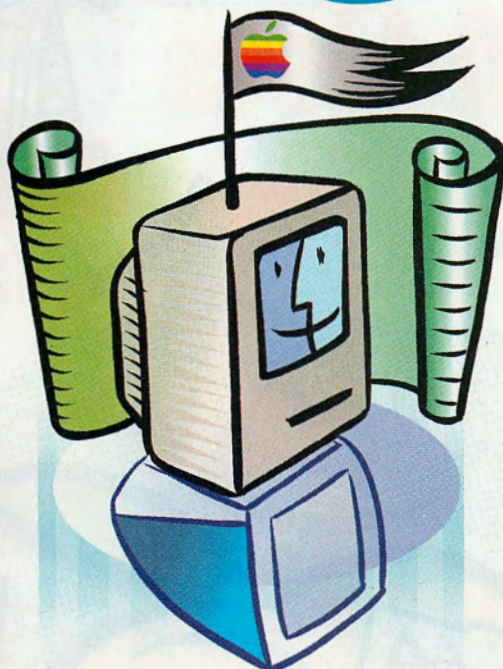


Illustrations by Pamela Hobbs  
Photos courtesy of Apple Computer



# MAC

## HISTORY



## Top 10 Earth-Shattering Mac Apps

- 1. Aldus PageMaker** Mac sales were nearly nonexistent in 1985, when Aldus saved the day with an affordable page layout program that—together with the Apple LaserWriter—sparked the desktop publishing boom.
- 2. MacPaint, MacDraw, MacWrite** The bundled software that shipped with the original Mac introduced WYSIWYG printing and drawing programs that showcased the Mac's ease of use. They also set a good example for developers.
- 3. Adobe Photoshop** Photoshop's debut as a Mac-only photo-editing program helped secure the Mac as the artist's tool of choice.
- 4. Adobe Premiere** One of the last great groundbreaking Mac applications, Premiere—the first QuickTime editing tool—made desktop video editing possible.
- 5. Microsoft Excel** The 1985 release of Excel proved that spreadsheets could be both easy to use and powerful. Initially available only on the Mac, Excel was more powerful than any spreadsheet program at the time—even those for DOS—and it gave many people their first reason to buy a computer.
- 6. FileMaker** FileMaker was the first database-building program that mere mortals could use. In fact, the software not only survived the database wars (remember ACI US 4D? Blyth Omnis?), but thrived. The company formerly known as Claris now sports the name FileMaker—a testament to the product's power.
- 7. Silicon Beach's Dark Castle** The mention of this—the biggest-selling Mac game before color hit with the Mac II—sends Mac Classic owners into fits of rock-throwing nostalgia.
- 8. Metrowerks CodeWarrior** Most consumers have never heard of CodeWarrior, a toolkit for programmers, but it allowed a smooth transition from the Mac's 68000-based CPU to the PowerPC back in the pre-Carbon era when Apple didn't provide developers with decent programming tools.

heard of CodeWarrior, a toolkit for programmers, but it allowed a smooth transition from the Mac's 68000-based CPU to the PowerPC back in the pre-Carbon era when Apple didn't provide developers with decent programming tools.

## Top 10 Mac History-Making EVENTS

- 1. Steve Jobs lets the Mac out of the bag, January 1984.**



"The computer for the rest of us" Inspired a cult following.

- 2. The LaserWriter is born, January 1985.**

Apple unveils the LaserWriter, which, combined with the release of Aldus PageMaker and the launch of the Mac Plus,



fires the first shot in the desktop publishing revolution.

- 3. Jobs gets the boot, September 1985.**

Love him or hate him, it was a sad day for Apple when its most visible founder hit the road after losing a boardroom battle with CEO John Sculley. Ten years of exile were to follow.

- 4. Sculley makes a deal with the devil, November 1985.**

Fearful of losing Microsoft's Mac support, Sculley lets Bill Gates use some Mac features in Windows 1.0 as part of a controversial licensing agreement. The rest is history.



- 5. System 7.0 is alive! May 1991.**

After a long delay, the Mac OS gets a major makeover with the addition of color, multi-tasking, and tons of features.



1984

1985

1991

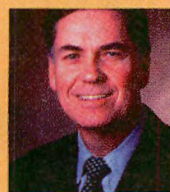
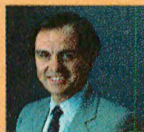


# Top 10 HIPPEST Execs



**1. Steve Jobs (in the '80s)** Cofounder of Apple and the original Mac daddy, Jobs inspired the Mac team to build their pirate machine despite a lack of corporate support.

**2. Jean-Louis Gassée** As Apple's senior vice president of research and development in the late '80s, the fabulous Frenchman fought hard for an open Mac architecture, lavished money and praise on his engineers, and always provided the press with outrageous quotes.



**3. Fred D. Anderson** Hired as CFO in 1996, Anderson helped shore up Apple's disastrous financial situation. He also makes the list because he's the only Amelio executive who managed to survive the Jobs takeover.

**4. Albert A. Eisenstat** When Apple turned to America Online in 1992 for help building eWorld, Apple's chief counsel insisted on buying a substantial stake in AOL. Apple sold it in 1996 for a tidy profit of \$39 million.



**5. Joseph Graziano** This tough-talking, two-time CFO publicly blamed CEO Michael



Spindler for Apple's ills at the October 2, 1995, board meeting. Failing to fell the CEO, Graziano resigned, his reputation intact.

**6. John Sculley** Despite his major Microsoft blunder, Sculley increased Apple's net sales from \$1 billion to \$8 billion during his 10-year reign as president and CEO.



**7. Tim Cook** The first guy in Apple history to figure out the inventory problem, Cook has products shipping on time with enough inventory of popular products to meet demand—without having a ton of leftovers.

**8. Steve Jobs (in the '90s)** Our favorite "iCEO" acted decisively, bringing us Mac OS 8, the PowerBook G3, the iMac, and five consecutive profitable quarters.



**9. John Rubenstein** A hardware genius, Rubenstein helped reinvent the beige box and hasn't shipped a bad product yet.

**10. Eric Harslem** As onetime VP of hardware engineering at Apple, Harslem shipped more CPUs during his tenure than any other executive at Apple. Unfortunately, Apple lost Harslem to Dell Computer, which then shipped more Wintel computers than ever before. Ouch.

# Top 10 Mac ENEMIES

- 1. Doctor Gilbert Amelio** The so-called "savior" almost finished off the company.
- 2. IS departments** Single-platform fascists won't rest until we're all suffering with Windows.
- 3. Maximum PC: our evil twin** We say "style," they say "expansion."
- 4. Best Buy** AKA Best Buyers' Remorse.
- 5. Intergraph** With friends like that, who needs enemies?
- 6. Jim Carlton** His hatchet job is now available in the paperback doom-and-gloom edition.
- 7. Wall Street Journal** Pays Carlton's salary and added to Apple's "death spiral" with Chicken Little reporting.
- 8. Bill Gates** Need we say more?
- 9. Michael Dell** He'll live to regret that crack about selling the company and giving the money back to the shareholders.
- 10. Homer Simpson** *Et tu, Homer?* The *Simpsons* patriarch has been assimilated.

# Top 10 ROYAL Battles

1. Microsoft Windows vs. Apple Macintosh
2. Hypercard vs. Supercard
3. Iomega vs. SyQuest
4. TrueType vs. Type 1
5. Netscape Navigator vs. Microsoft Internet Explorer
6. Adobe Illustrator vs. Macromedia FreeHand
7. Berkeley Systems' After Dark vs. Fifth Generation Systems' Pyro
8. Jasmine vs. GCC vs. SuperMac
9. Virex vs. SAM vs. Disinfectant
10. PageMaker vs. QuarkXPress



**7. Gil makes good with the NeXT acquisition, December 1996.**

Lackluster Apple CEO Gil Amelio invests \$400 million to replace Copland with Rhapsody and bring back Steve Jobs, who would in turn replace Amelio and radically overhaul the NeXT-based OS plans.



**6. Apple allies with sworn foe IBM, October 1991.**

Although their joint ventures—Taligent and Kaleida—pooped out, Apple and IBM hit a home run with their PowerPC initiative.

**8. Jobs makes a deal with the devil, August 1997.**

History repeats itself as Jobs makes friends with the enemy for fear Microsoft will discontinue its Mac products. Microsoft's \$150 million investment in Apple is a trifling amount, but the support of the world's largest software company in Apple's time of need is priceless. The Mac faithful, however, are shell-shocked.

**9. Apple acquires Power Computing, September 1997.**

Deciding that licensing agreements do Apple more harm than good, Jobs kills the burgeoning Mac clone market by buying its largest competitor.

**10. The curvy, cuddly iMac saves the day, May 1998.**

After years of foundering, Apple rights itself financially and scores big with an innovative case design at a low price point. The surprise intro stuns the world and shows that Apple can still shake things up.



1996

1997

1998



# Top 10 Macs EVER MADE

It may be self-evident that all people are created equal, but that's certainly not the case with computers from Cupertino. Although all of the more than 250 Macs ever made bear the Apple logo, the following 10 have truly earned their stripes—or translucence, as the case may be.

**1. Power Macintosh G3** Released on November 10, 1997, the first Macs based on the third-generation PowerPC CPU proved there was still plenty of room to zoom in the realm of RISC. The G3 brought the Performa line to a merciful end by offering high-end speed and features at a consumer price.



**2. Mac Plus** The right Mac at the right time, the Mac Plus boasted all the features the 128K Mac lacked but customers craved, including SCSI, support for external hard drives, an 800K floppy, and expandable memory. The Plus also gave the Mac a reason to exist, with its ability to run key apps such as PageMaker.



**3. PowerBook 180** After the embarrassing Macintosh Portable, Apple set new precedents in laptop design with the elegant PowerBook 100 series. The world warmed to its charming case design, which featured a built-in trackball and pushed-back keyboard. The 180 is our pick of the litter, thanks to its active matrix gray-scale screen.



**4. Quadra 840AV** The first multimedia Mac, the Quadra 840AV boasted speech recognition and television video in-out capabilities, foreshadowing the video revolution. It was also expandable and even faster than the first Power Macs at some tasks.



**5. iMac** The iMac sold 278,000 units in its first six weeks of availability, making it the fastest-selling Macintosh model in Apple history. Cutting edge from the see-through case to the USB hubs to the \$1,299 price tag, the iMac grabbed the other guys' attention and restored the company's reputation as an innovator.



**6. PowerBook 1400** The PowerBook 1400 boasted many firsts when it was released in October 1996: a removable modular CD-ROM drive, easy expandability, a flip-up keyboard, piggy-back memory, a huge screen, and BookCovers.



**7. Macintosh LC** The \$2,449 Mac LC, which shipped on October 15, 1990, was the first cheap yet full-featured color Mac. It was also a Mac with a future, thanks to its LC slots and an abundance of cards to fill 'em up.



**8. Power Macintosh 7100/66** On March 14, 1994, Apple released the first Macs based on the PowerPC 601 jointly developed with IBM. Apple handled the transition to RISC smoothly: Users suffered from few, if any, compatibility problems, and developers pumped out a slew of native apps that once again gave Apple the edge in performance. The 7100/66 had more slots and took up less desk space than the other Macs of its generation.



**9. Macintosh II** Introduced alongside the Mac SE, the \$3,769 Mac II ushered in the era of expandability. Its big box design (the first that ordinary folks could open) accommodated multiple internal drives, and the six NuBus slots offered unprecedented expansion possibilities. It also supported external monitors and color.



**10. The 128K Macintosh** Released on January 24, 1984, at a cost of \$2,495, the original Macintosh was underpowered, with only 128K of memory and a single 400K 3.5-inch floppy drive, but it *was* the original, and it forever changed the way the world would compute.



## And the 5 Worst

**1. Macintosh Portable** Apple released its first laptop computer, the \$5,799 Macintosh Portable, on September 20, 1989. Nicknamed "the luggable," it weighed 15.8 pounds—almost as much as two gallons of milk.



**2. Mac IIvx** Released at \$2,949 in October 1992, the last member of the Mac II line was fettered by a processor-crippling 16MHz bus, only supported up to 14-inch monitors, and was darn ugly. Apple infuriated owners by introducing the faster, cheaper Centris 650 just four months later,

which caused the Mac IIvx to lose more of its value faster than any other model.

**3. Pippin** Back in the mid '90s, Apple came up with the bright idea of packaging a stripped-down Mac as a consumer electronics device. Apple promoted this technology as a set-top interactive TV box, a game machine, a multimedia player, and a network computer before putting it to sleep after selling less than 50,000 units worldwide.

**4. PowerBook 5300** Released on August 25, 1995, the PowerBook 5300 will go down in history as a red-hot product thanks to its Sony-manufactured batteries, which literally went up in flames, prompting a recall. Less than a year later, Apple issued another recall to fix cracked cases, defective power plugs, and anemic power supplies.

**5. 603-based Performas** Unexpandable and bug-ridden, the inferior 6200 Performa line was the slowest Power Mac ever made. Its deficiencies created a class divide between the low-end consumer market and the high-end professionals.



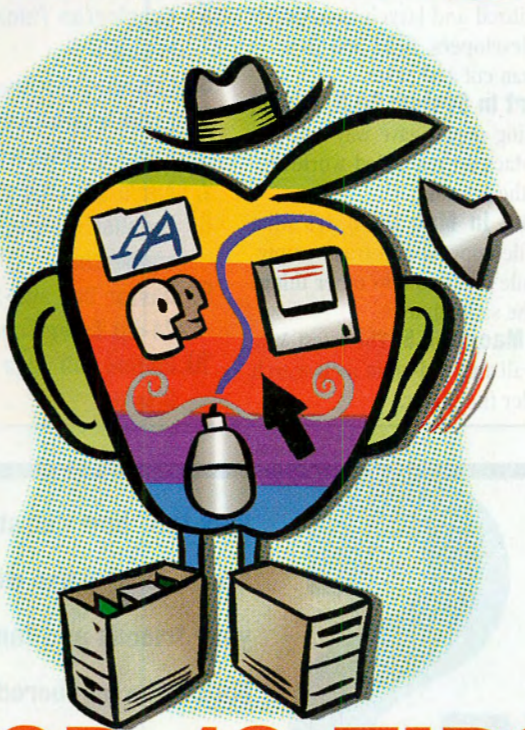
# MAC

# TECH NOL Ogy

## TOP 10 Technologies APPLE MADE BIG

1. Icons
2. Mice
3. Fonts
4. 3.5-inch floppy drives
5. Laser printing
6. CD-ROMs
7. SCSI
8. Text-to-speech
9. Networking
10. Digital audio

top 10



## TOP 10 TIPS OF ALL TIME

**Before you resort to dialing tech support to solve your Mac woes, try these top 10 troubleshooting tips first.**

1. **Turn off the Mac and try again.** Before you attempt anything else, try restarting. You'd be amazed how often this works.
2. **Rebuild the desktop.** As the Finder appears at startup, hold down Command-Option to force the Mac to rebuild the invisible desktop file that tracks everything on your hard drive. As they say, an ounce of prevention...
3. **Zap the PRAM.** Hold down Command-Option-P-R at startup until you hear the chime a second time. This resets options in parameter memory that may be causing problems.
4. **Scan for viruses.** Viruses can cause all sorts of mysterious Mac illnesses, so if you don't know why your Mac is acting funny, run a virus scan program such as Symantec's Norton AntiVirus or Dr. Solomon's Virex.
5. **Run a high-end disk utility.** When it comes

to fixing your hard drive, Apple's Disk First Aid is like a swab of iodine and a gauze bandage compared to Symantec's Norton Utilities for Macintosh or MicroMat TechTool Pro's surgery.

**6. Turn off extensions.** Hold down the Shift key at startup, disabling all extensions and control panels, to determine if an extension conflict is causing your problem.

**7. Reinstall the application.** With programs becoming ever larger and requiring tons of plug-ins and libraries, it's not uncommon for something in an application to become corrupt. By reinstalling from the original floppy or CD, you know you have a clean, complete copy of everything you need.

**8. Reinstall the Mac OS.** Everything on your Mac depends on the operating system, so if something is missing or corrupted in your System Folder, anything can happen. As a last resort, when you're really at your wit's end, do a clean install to put a virgin copy of the System Folder on your hard drive.

**9. Update your software.** Make sure you're running the most current versions of crucial applications, extensions, and hard disk drivers. Publishers release updates and bug fixes all the time to ensure compatibility with the latest peripherals and Mac OS.

**10. Boot from a CD or floppy.** Always have a disk or CD with the System Folder on it. If you get a flashing question mark, start up from this. It should give you access to your files and hard drive so you can at least back up (which you should have done already but probably haven't).

## And the 5 Dumbest Things You Can Do

1. **Never save anything, especially if you're close to finished and it was due yesterday.**
2. **Never back up anything, either.**
3. **Reformat your drive to HFS+ after practicing 1 and 2 above.**
4. **Let your buddy install some shareware utility that worked great with System 6.**
5. **Install RAM in a Power Mac 9500.**



# Top 10 Mac OS IMPROVEMENTS

The Mac operating system has always been better than anything Microsoft had to offer, but that's not to say it sprang fully formed in its current incarnation from the bowels of Infinite Loop. Each release of the Mac OS has offered bug fixes, improvements, and new features. The following are the most significant.

- 1. HFS in System 3.0** The handy-dandy hierarchical file system allowed Mac users to store files conveniently in nested folders, opening the way for larger volumes.
- 2. MultiFinder in System 4.2** MultiFinder made running more than one program at a time simple—a small step for humankind, but a big improvement over the earlier Switcher.
- 3. QuickTime in System 7.0** You can thank QuickTime for single-handedly starting the multimedia revolution, which just may be providing you with a paycheck right now.
- 4. 32-bit addressing in System 7.0** Finally, the Mac could access more than 8MB of memory, making a multimedia future technologically possible.
- 5. Fonts folder in System 7.1** With one central place to store various font files easily, users said goodbye to the awkward Font/DA Mover forever.

- 6. AppleScript in System 7.1 Pro (System 7.1.1)** This feature made it possible for mere humans to automate repetitive tasks without having a degree in programming.
- 7. Drag and drop in System 7.5** Although still vastly underutilized and largely unappreciated by software developers, drag and drop is far easier to use than cut and paste.
- 8. Open Transport in System 7.5.2** The old AppleTalk networking model gave way to Open Transport, giving Macs an expanded worldview that encompassed the Internet.
- 9. Multithreading in Mac OS 8** It's what gives us multiple file copying and trash emptying capabilities while letting us do other things with our Macs at the same time.
- 10. Sherlock in Mac OS 8.5** The latest Mac OS features the be-all and end-all in metasearch engines, plus a killer file finder.

## TOP 10 All-Time PERIPHERALS

- 1. Connectix QuickCam**
- 2. Wacom pen tablets**
- 3. Kensington Thinking Mouse**
- 4. Iomega Zip drive**
- 5. Apple OneScanner**
- 6. Apple LaserWriter**
- 7. Apple StyleWriter**
- 8. Farallon's PhoneNet connectors**
- 9. Raster Ops sub-\$1,000 24-bit Color Board**
- 10. Radius Full Page Display**

# JOBS

Play the "New Hairstyle for Steve Jobs" game with your friends and family. Match the numbered cuts with their lettered hairdos, then just cut and paste.

## Top 10 Hairstyles (as modeled by Steve Jobs)

- |                   |                                 |
|-------------------|---------------------------------|
| <b>1. Mohawk</b>  | <b>7. Tail</b>                  |
| <b>2. Mullet</b>  | <b>8. Spikes</b>                |
| <b>3. Dreads</b>  | <b>9. Perm</b>                  |
| <b>4. Crewcut</b> | <b>10. The Jennifer Aniston</b> |
| <b>5. Afro</b>    |                                 |
| <b>6. Beehive</b> |                                 |





# Said by STEVE JOBS

TOP 10 THINGS

1. "Internet Explorer is my browser of choice."—1997 Macworld Expo, just after announcing the Microsoft deal.
2. "You could argue about the number of years it would take, you could argue about who the winners and losers in terms of companies in the industry might be, but I don't think rational people could argue that every computer wouldn't work this way someday."—On the graphical user interface he saw at Xerox PARC.
3. "You know, I've got a plan that could rescue Apple. I can't say any more than that it's the perfect product and the perfect strategy for Apple. But nobody there will listen to me."—NeXT and Pixar CEO Steve Jobs, during Gil Amelio's reign at Apple.
4. "I'm the only person I know that's lost a quarter of a billion dollars in one year....It's very character building."—On his Apple stock.
5. "If I were running Apple, I would milk the Macintosh for all it's worth....and get busy on the next great thing. The PC wars are over. Done. Microsoft won a long time ago."—In a February 1996 *Fortune* interview.
6. "It's better to be a pirate than to join the Navy."—On the appeal of being part of the original Mac team.
7. "Do you want to spend the rest of your life selling sugared water, or do you want a chance to change the world?"—Trying to convince John Sculley to quit Pepsi and join Apple as its CEO.
8. "What can I say? I hired the wrong guy."—On Sculley in the *Triumph of the Nerds* documentary.
9. "It is hard to think that a \$2 billion company with 4,300-plus people couldn't compete with 6 people in blue jeans."—On Apple's suit against NeXT, following his resignation from Apple in September 1985.
10. "We knew we'd either be the last hardware company that made it or the first that didn't, and we were the first that didn't."—On NeXT's aborted computer efforts.

## Top 5 Ways to IMPERSONATE

STEVE JOBS

1. Go into a genetics lab and start killing clones.
2. Reduce your pay to \$1 a year, but make sure you also own a lucrative animation company to help pay the bills.
3. Carry around a ThinkPad, but tell everyone it's running OpenStep.
4. Go vegan!
5. Make all formal business presentations in your oldest jeans and ratty sneakers.

## Top 10 Things Said About STEVE JOBS

1. "Steve will use anybody to his own advantage. He will say one thing, and anybody who heard it would think that he was saying 'Maybe yes' or 'Maybe no.' You could never tell what he was thinking."—Steve Wozniak.
2. "When I wasn't sure what the word *charisma* meant, I met Steve Jobs, and then I knew."—Larry Tesler, Apple's former chief scientist.
3. "Without Jobs, Apple is just another Silicon Valley company, and without Apple, Jobs is just another Silicon Valley millionaire."—Nick Arnett, technology journalist.
4. "With Steve, you never know exactly where an idea comes from."—Steve Wozniak.
5. "The most important thing Steve did was erect a giant shit-deflecting umbrella that protected the project from the evil suits across the street."—Andy Hertzfeld, Mac software wizard.
6. "He's a very motivational kind of guy, like a Roman legion commander. He really knows how to motivate small groups of people to produce."—Joanna Hoffman, Mac team member.
7. "He would have made an excellent king of France."—Jef Raskin, one of Apple's first employees.
8. "Steve was nothing short of exciting. He was arrogant, outrageous, intense, demanding—a perfectionist. He was also immature, fragile, sensitive, vulnerable. He was dynamic, visionary, charismatic, yet often stubborn, uncompromising, and downright impossible."—Ex-Apple CEO John Sculley.
9. "He has the ability to make people around him believe in his perception of reality. It's a combination of very fast comeback, catchphrases, and the occasional very original insight, which he throws in to keep you off balance."—Guy L. Tribble III, former manager of Mac software engineering.
10. "I came to know Steve as smart, excessively selective about the people he wants as friends, impatient, lacking in integrity, and very controlling."—Gilbert Amelio, ex-Apple CEO, in his book *On the Firing Line: My 500 Days at Apple*.

Answers to "New History for Steve Jobs" game: 1=a, 2=i, 3=g, 4=d, 5=f, 6=h, 7=m, 8=j, 9=h, 10=e





# MARKETING

## TOP 10 UNFORGETTABLE ADS

1. 1984
2. Think Different
3. Lemmings
4. Welcome, IBM—Seriously
5. C:\ONGRTLNS.W95
6. Test drive a Macintosh
7. Snail
8. Power to Crush the Other Kids (*Saturday Night Live* spoof)
9. Burning Bunny
10. Steamroller



## TOP 5 FLASHIEST SLOGANS

1. The Computer for the Rest of Us
2. The Power to Be Your Best
3. What's on Your PowerBook?
4. The Power to Save the World
5. Think Different

# BAG GRAB

## TOP 10 WAYS TO KNOW YOU'RE A MACADDICT ADDICT

1. You insert random numbers in your name just to be cool.
2. You know what the dots on the magazine's spine mean.
3. You know how many "cracks" are in the December '98 issue.
4. You sent money to the "Save Dave" fund.
5. You were able to answer all of the questions correctly on the "MacAddict Citizenship Quiz."
6. You're reading this list.
7. You have a Nikki Echler fan club Web site.
8. You wonder about Max's personal life.
9. You can write a better list than this before lunch.
10. You actually read the *Letters* section.

## TOP 10 READER REQUESTS

1. Special rewards for catching our typos.
2. A date with Nikki, Cheryl, Jen, Kris, Max, or Prison Guy.
3. The return of the ill-fated *MacAddict Hour*.
4. That special technical assistance only Dave Reynolds can give.
5. Our jobs—suckas!
6. Freak recognition in our *Letters* section.
7. A new Power Mac G3.
8. A new PowerBook G3.
9. Any old Mac we might just have lying around that we won't be using anymore.
10. The Myth II demo—and you got it, baby!





# TOP 10 APPLE T-SHIRTS

Every day is casual day in Apple's corridors in Cupertino, California. A pair of blue jeans and a T-shirt is practically the company uniform, so over the years there's been stiff competition at Apple to create great T-shirts that celebrate big events, tell inside jokes, or herald significant products. Here are 10 favorites chosen by Gordon Thygeson, author of the definitive book on the subject, *Apple T-Shirts* (<http://www.applehirts.com>).



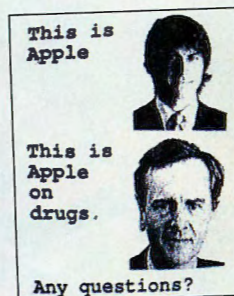
**1. Apple II** Apple's first T-shirt, commissioned by Gene Carter, Apple's first vice president of sales, started the trend.



**2. Been There...Done That** Part of a press kit made prior to the release of Windows 95, the T-shirt lists the Mac features Microsoft had copied since '84.



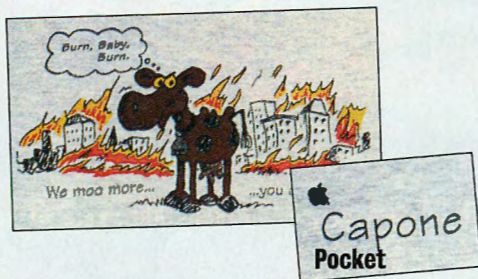
**3. Mac 10th Anniversary** This anniversary shirt celebrates the Mac's 10th birthday with images from the landmark 1984 commercial.



**4. This Is Apple on Drugs** Ticked-off Apple employees take a jab at Sculley after a massive 1991 layoff leaves them missing their Jobs.



**5. Open Mac** Modeled after then-Apple CEO Jean-Louis Gassée's personalized license plate, this shirt represents both a change in leadership and the modernization of the Mac.



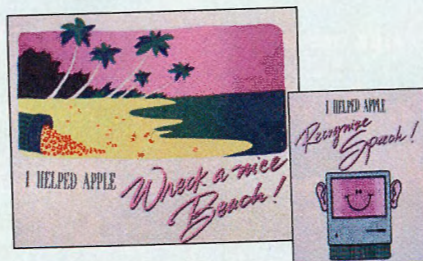
**6. We Moo More...You Cuss Less** Symbolizes the System 7.5 (code name Capone) and Windows 95 (code name Chicago) rivalry and parodies Apple's 1994 ad campaign, "It does more. It costs less. It's that simple."



**7. Mac Picasso** Apple used this design—as much a teaser as a T-shirt—to build up excitement for the initial launch of the Mac.



**8. Partners in Education** Although it signifies Apple's commitment to education, this T-shirt was never released publicly because it violated guidelines surrounding the use of the Apple logo.



**9. Wreck a Nice Beach** Making fun of Apple's first attempt at its text-to-speech technology, this shirt was given to the people who donated their time and voices to the project.



**10. The Journey Begins** All new Apple employees used to receive this shirt in their welcome kit. It's a derivation of the Zen proverb "the journey is the reward" that Jobs used to motivate the Mac team in 1983.

Owen W. Linzmayer is now allergic to the number 10.



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in 10,000 years of real-time evolution. Which gives you just enough time to decide whether you want to conquer everyone else, explore the four corners of the globe, or accumulate great wealth to achieve victory. And with a 100-node technology tree, you can choose your advancements accordingly. For instance, you can research gold mining or commerce to amass



 Mac

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you'll see every flaming arrow, marching phalanx, and

charging war elephant, and the pressure  
to win becomes downright intense.



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win, make sure you've got the empire to back it up.

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# reviews

On the menu: plump plug-ins, tasty MacInTax, scrumptious Soulbrighter, and more.

## Canvas 6.0

### DESIGN & GRAPHICS

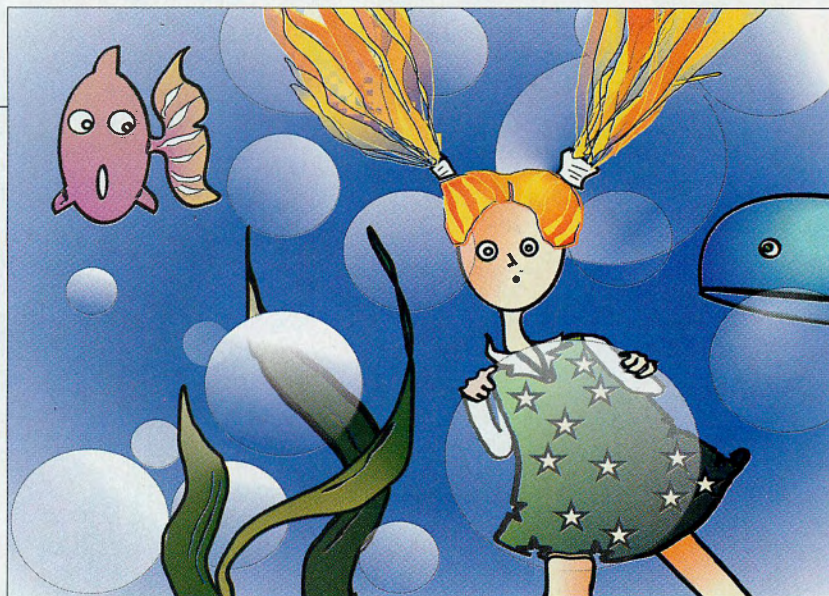
**COMPANY:** Deneba Software

**CONTACT:** 305-596-5644, <http://www.deneba.com>

**PRICE:** \$375 (SRP), \$199 upgrade, \$199 competitive upgrade

**REQUIREMENTS:** Power Mac, System 7.5 or later, 16MB of RAM (32MB or more recommended), 50MB of free hard disk space, 8-bit color video display (24-bit recommended), CD-ROM drive

**Y**ou want it all. You want it now. You want it for less than \$400. Adobe may laugh in your face as it charges you that much money for *each* of its separate graphics applications, but Adobe doesn't count among its users the person who needs an array of imaging tools and doesn't have a ton of money to spend on them. That's the intermediate-level market Deneba wants to reach with version 6 of Canvas. With its improved illustration, photo editing, and page layout capabilities and its powerful new transparency features, this all-in-one solution may even win over some graphics professionals.



**CANVAS'S NEW TRANSPARENCY FEATURES** sink the competition (pun intended). Here, we added a bit of depth (pun definitely intended) using a variety of vector transparency masks.

The biggest coup in Canvas 6 is its set of advanced transparency tools, which utilize Deneba's much-hyped SpriteLayer technology. The hype is well deserved. Other graphics applications, such as Adobe Illustrator 8.0 and Macromedia FreeHand 8, can only perform basic fades and transparencies or require costly plug-ins to perform high-end transparencies. Canvas 6 features a variety of transparencies that can significantly bump up the oh-la-la quotient of your images. The program allows you to apply directional, radial, rectangular, and elliptical vector transparency masks to *any* object—and these masks are fairly easy to use. Just select the image, choose one of the tools from the Vector Transparency palette, and drag the tool near or over the selected object. A vector line with handles appears, representing the position of the transparency. Drag a handle to place the transparency vector. If you don't get the look you want, select another tool and try again (Canvas negates the earlier vector transparency mask when you apply a new one).

You can also add vector transparency masks using a second object. Just place the

object you want to use as a mask in front of the object you want to mask, select both objects, and choose Attach Mask in the Transparency submenu of the Object menu. Canvas 6 applies transparency based on the lightness and darkness of the masking object. The darker the image, the more transparency it creates in the masked image. For example, solid black images used as masks will make masked object invisible, while solid white transparencies will have no noticeable effect.

Canvas 6 also has pixel-based channel transparency masks that you can paint onto an object using the painting tools. These masks will particularly appeal to technical illustrators who want to create detailed cut-away views revealing what lies beneath an object's surface. For example, think of layered tissue and bone illustrations from publications such as *Gray's Anatomy*, renderings of buildings with the underlying structure exposed, and drawings of cars with the engine and other parts showing through transparencies in the body. Getting used to the subtleties of transparency masks takes some practice, but once you've mastered them you can give



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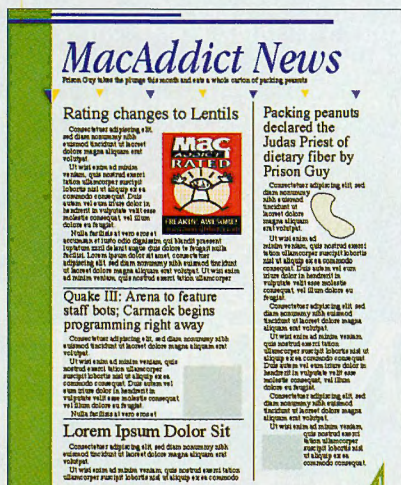
**SPIFFY**  
A solid offering. Overall a good investment.



**YEAH, WHATEVER**  
A few good features, but generally a waste of time and money.

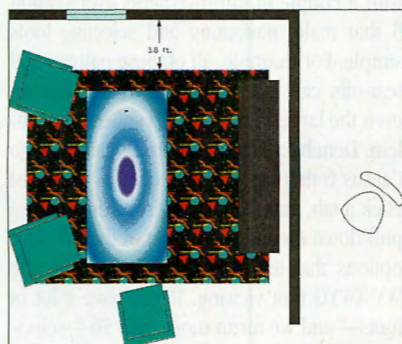
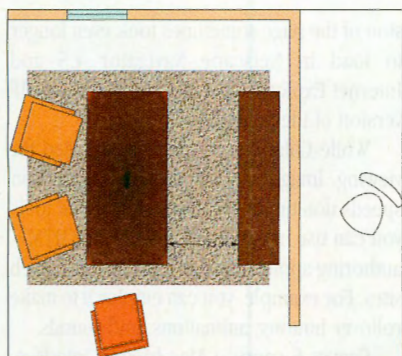


**BLECH!**  
We hate to even blotch our pages with the thing.



**CANVAS 6'S PAGE LAYOUT ABILITIES** are easy to use and let you create documents for every occasion.





**Dimensioning**

Dimension type: Linear

Style: ☒ Arrows inside  
☐ Center text  
☐ Frame text

Text display: Horizontal

Leading character: None

R,D symbols:

Precision: x.x

Tolerance: None .5 -0.5

☒ Custom units: Inch

Scale: 1 in. = 2 ft.

Standards Cancel OK

**CREATING A ROOM** using the drawing tools is easy. You can specify textures, gradients, and colors for objects, and use the dimensioning tool to indicate feet per inch in your plan. Change the colors, add a pattern, and you've got a different look.

your images a realistic depth that makes them jump right off the page.

Folks who want to save their Canvas documents in Adobe Illustrator format should be aware that Canvas images that have transparencies in them won't translate well. When we saved a large Canvas image packed with transparency masks in Illustrator format, for

example, Illustrator 6 didn't even recognize it, and while Illustrator 7 opened it, all of the transparencies were gone and the layers had merged. Of course, it's not Deneba's fault that its competition can't do transparencies, but graphics professionals should plan on saving Canvas documents with transparencies as TIFFs if they want to open them in Illustrator.

Deneba says it will release a fix to the layer problem in the next service release.

While technical draftspersons may scoff at using anything less than a professional-level CAD application, Canvas 6 offers all the tools you need to make floor-plan mockups, blueprints, and models. For example, you can quickly draw primitive shapes such as circles and arcs by defining the radius or three points, as well as perfect polygons using the Multigon tool, and polygons of any shape using the Polygon tool. Add the ability to duplicate, scale, and rotate objects, and you can create impressive designs in just a few quick steps. If you crave down-to-the-millimeter perfection, Canvas 6 has a Dimensioning palette with 17 tools for defining, scaling, and setting measurements and coordinates numerically. Canvas's Smart-Mouse feature is a great help in precision drawing—it enables you to fix the exact angle and distance between objects as you move them around in your document.

Canvas 6's page layout capabilities rival those of QuarkXPress and Creator2 without intimidating beginner and intermediate users. The program offers many features, such as multiple page layers, that QuarkXPress can't handle without Extensis's QX-Tools 4 plug-in. But the most compelling reason to consider Canvas 6 for your page layout needs is that you can seamlessly add unique graphics you've made in Canvas to your pages, making gradients applied to text or objects immediately available in your master pages and style sheets. Working with documents and multiple layers is a complicated task, but Canvas

## Fun with Filters

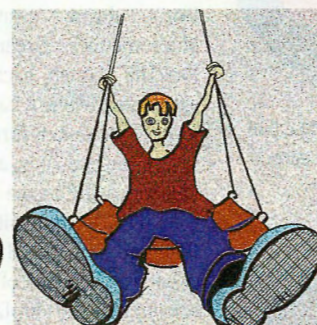
Canvas 6 comes with more than 30 fun filters you can apply to your image.



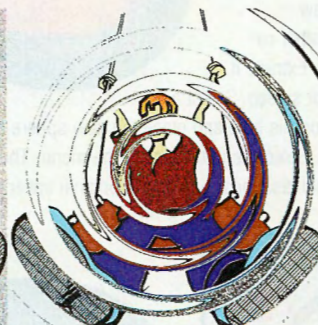
The original image, with no filters added.



Need glasses? The Gaussian Blur filter softens the image.



Bad reception? The Add Noise filter scatters random pixels over your image for a fuzzier look.

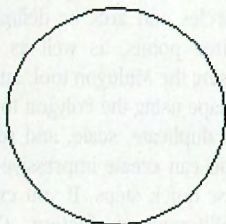
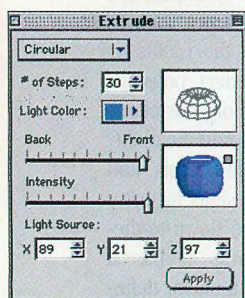


Is it raining? The Ripple filter creates the impression of ripples moving across an image.



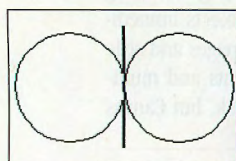
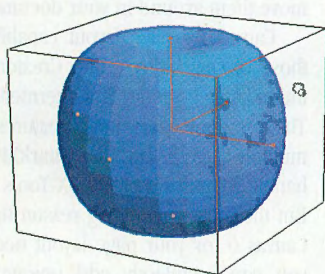
## X-Ray Visionary

Canvas 6 offers some basic tools with which to create 3D objects on an illustration document. Having 3D is nice, but having 3D and transparency is twice as sweet.

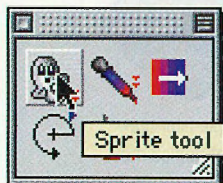
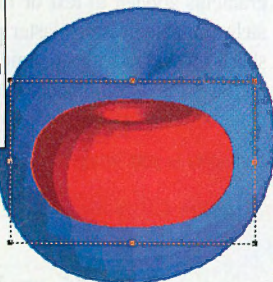


**1** Use the Circle tool to draw a circle. Use the Extrude command to make a circular sweep of the circle. Apply a light color and position the light source (small square in preview box).

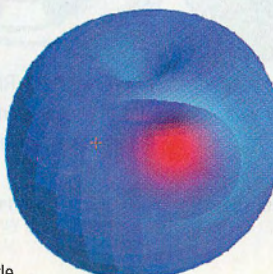
**2** Use the hand to position your sphere along its axes and to adjust its size.



**3** Draw another circle. Extrude it using circular sweep. Select a different color this time and place the new sphere on top of the first one. Select Send to Back in the menu. The second sphere should disappear behind the original sphere.



**4** Select an elliptical gradient from the Gradient palette. Select the Sprite tool (the little Casper ghost icon). Brush the tool over an area on the first sphere until the sphere underneath shows through. Repeat as necessary.



6's contextual tool tips guide you through unfamiliar tools. We were able to create a mock newsletter in less than 15 minutes. Advanced users will want to explore shared layers across multiple-page documents and use the selective printing options for layers and individual graphic elements, which again is something QuarkXPress can't do without the QX-Tools 4 plug-in.

Canvas 6.0's presentation capabilities are very similar to those of Microsoft PowerPoint and Kai's Power Show, with the advantage of always editable objects in your document. Provided templates help beginners put together a presentation quickly. You can even import QuickTime movies into your document and play back a short video clip or musical snippet for clients, which can add flair to your pitch. We found Canvas 6.0's presentation features generally useful and fairly intuitive, as all types of documents share Canvas's tool set. Our only rough spot during the presentation creation process occurred when saving the presentation as a QuickTime movie: because the presentation document was twelve slides long, even the 266MHz Power Mac G3 we were using spun its wheels for almost seven minutes before cranking out the final movie. However, the movie played back fine. Before saving a QuickTime presentation destined for cross-platform viewing, users will want to enable the playback option for PCs.

The press can't stop yammering about how the Web is the medium of the future. Well, someone at Deneba was obviously listening, because Canvas 6 now offers Web design tools, located in its Colada palette, that enable you to take Canvas documents and convert them to Web-ready format. Don't throw away your copy of Macromedia's Dreamweaver or Adobe PageMill, though, because Colada's abilities are limited. While it can save a Canvas document in Web-ready format, it requires you to save it as Java only, as a JPEG image with links, as a GIF image with links, or as Java with JPEG or Java with GIF. The Java with JPEG and Java with GIF combination options create two versions of the Web page: a Java version that will display the page as Java in browsers that support Java, and a GIF or JPEG version that will display in browsers that don't support Java. This method presents problems for viewers of that Web page. Any HTML page comprised of one large image, even if it's a GIF file, takes a long time to download on all but the fastest connections. (If it's a JPEG, you can forget about it.) Plus, Java itself is still notoriously buggy and often crashes even those browsers that supposedly support it. In our tests, the Java ver-

sion of the page sometimes took even longer to load in Netscape Navigator 4.5 and Internet Explorer 4.01 than the JPEG or GIF version of the page did.

While Colada is probably best suited for viewing images locally, where connection speeds don't matter, it does offer useful tools you can use in conjunction with your HTML-authoring application to churn out killer Web sites. For example, you can employ it to make rollover buttons, animations, and sounds.

Canvas 6 sports a Mac-friendly interface, with a couple of improvements over version 5 that make navigating and selecting tools simple. For example, all of those palettes and tear-offs can take up major real estate on even the largest monitors. To solve this problem, Deneba added a unique Docking Bar to Canvas 6 that can store palettes as tabs. Just click a tab, and the palette drops down like a pull-down menu. One aspect of the interface options that annoyed us, however, was the WYSIWYG font viewing. If you have a lot of fonts—and we mean more than 50—selecting a font from the font menu takes an inordinate amount of time. For those who have hundreds of fonts loaded on their machine, the WYSIWYG font menu can take up to five minutes to display. Turn off this aggravating viewing feature if you want speed.

Canvas 5's unstable performance made it an iffy proposition. Deneba has fixed this problem in Canvas 6. It's very stable on most machines, although we don't recommend running it on anything slower than a 300MHz Power Mac 6500 603e. For rendering and other memory-taxing chores, be sure to bump up Canvas's minimum memory to the recommended 32MB, or you may suffer through long waits, low-memory warnings, and possibly even freezes.

If you're a graphics professional, you'll probably insist on sticking with your treasured industry standards—Illustrator, Photoshop, QuarkXPress, and so on—which you rightly should. After all, upgrade prices on those packages are generally affordable. However, if you're looking to buy your first graphics package, or if you need a whole range of imaging capabilities and don't want to blow away your bank account to get it, you should consider Canvas 6.—*Jennifer Ho and Jeff Titterton*

**GOOD NEWS:** Comprehensive, well-integrated drawing, painting, page layout, presentation, and Web tools in one easy-to-use package. Outstanding transparency gradients and masks. Improved interface and navigation. More stable than Canvas 5. Affordable.

**BAD NEWS:** Web design tools are limited.





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# reviews

## reviews

# Canon Vistura DV

## HARDWARE

**COMPANY:** Canon

**CONTACT:** 800-652-2666, <http://www.canondv.com>

**PRICE:** \$1,499 (SRP)

**REQUIREMENTS:** Power Mac with FireWire port

Canon has long had a reputation among camera cognoscenti for its compact, elegant, and high-quality products, and it is aiming for the same reputation in the growing "prosumer" digital video market. The new Vistura is Canon's midrange DV entry, and it has just about everything your ordinary DV jockey is likely to need.

Weighing only 1 pound 9 ounces, and just under the size of a fat paperback almanac, the silver and black Vistura makes an easy-to-carry package. But its feature list isn't small—in fact, it reads like a camcorder wish list. The Vistura boasts a wide-range zoom lens, optical image stabilization, autofocus with manual override, LCD and analog video viewfinders, CD-quality audio and still-image recording, digital special effects, wide-screen-format recording (16:9), a useful set of inputs and outputs, top-of-the-line VCR functions, tape marking and insert editing, a wireless remote, DV image quality, and a menu system that gives you unprecedented control over the camera's features.

The Vistura's standout feature is probably its 16X-power zoom lens, a very wide range for a camcorder at this price point. The lens is crisp and the zoom is quiet and fast. There's a 16X-to-64X digital zoom, too, which you turn on from the menu. This feature more than doubles the zoom range but results in a pixelated image, so use it only when you have to shoot the hairs inside your dog's ear. The image stabilization does a good job of smoothing out minor jitters in the picture, which are most noticeable with extreme close-ups, but this feature wimps out if you get too jiggy with it.

We were also impressed with the fine degree of control the menu offers. Along with the usual time, date, and mode selection, the menu lets you turn the tally lamp (recording light), wireless controller, and mike wind screen on and off; remotely adjust the white balance; and do all your shot marking and editing. Press the Digital



Photo by Aaron Lauer

**SMALL AND SWEET, the Canon Vistura stands for DV.**

Effects button for a menu of SFX that includes practical tools such as fades, scrolls, and wipes, and arty stuff like strobes and sepia tone. Some of this is gimcrackery, but you'll use the fades and scrolls often.

When you want to move your movies out of the Vistura and onto your Mac, you've got a four-pin FireWire port on the back of the cam, plus S-Video and mini-plug composite video out. Most FireWire boards come with software that enables you to suck video out of the cam and onto your hard drive at up to 25 MBps. There's also a stereo mike jack, so a shotgun or other external microphone can take over for the Vistura's adequate but not superb internal mike.

The only real quibbles we had with the Vistura were with its ergonomics. The cam fits best in the palm of a larger hand, which can comfortably reach the zoom rocker on top with the index and middle fingers while pressing the record button with the thumb. However, a few of the controls are too small and close together for large fingers to use precisely. And like most cameras, video or still, the Vistura is resolutely designed for right-handed folks.

DV pros in search of a production cam will probably want to look at Canon's or Sony's high-end units. But don't scorn the Vistura: It's a great backup camera you can hide in your pocket. For the rest of us, Canon's Vistura makes the ideal companion for any FireWire-equipped Mac.—Steven Anzovin

## Got Your FireWire Here

**N**eed a fix of IEEE 1394? Like some Ultra Wide SCSI on the side? Try the HotConnect 8945 from Adaptec (408-945-8600, <http://www.adaptec.com>). The HotConnect stands out from the crowd by offering both popular types of high-speed connections on one short PCI card. Just pop a jumper, plug it in, and you're set to connect up to 62 IEEE 1394 devices at 25 MBps (as fast as most FireWire video devices can handle) and up to 15 SCSI devices at a blistering 40 MBps. Adaptec was thoughtful enough to include several kinds of Ultra SCSI and FireWire cabling and adapters, plus software plug-ins so that you can grab your video from within Adobe Premiere.



**YOU NEED ONE of these hotties to bring DV to your Mac.**

**GOOD NEWS:** Slick, compact design. Has every feature you could ask for at this price. **BAD NEWS:** Some controls are a bit too small for larger fingers. Door that protects video jacks is flimsy.







## DiskWarrior 1.0.2

### UTILITY

**COMPANY:** Alsoft

**CONTACT:** 800-257-6381 or 281-353-4090,

<http://www.alfsoft.com>

**PRICE:** \$69.95 (SRP)

**REQUIREMENTS:** 68020 or faster, System 7.1 or later, 16MB of RAM

These days, Mac users have a range of disk repair and diagnostic utilities to choose from, including Norton Utilities, TechTool Pro 2, MacMedic, and Apple's Disk First Aid. However, none does quite what DiskWarrior does.

DiskWarrior replaces your disk's directory with an optimized version. The directory, the most frequently damaged portion of your disk, serves as a map for file data, including name, number, size, location, and type. When an application wants information from the disk, the Mac OS queries the direc-

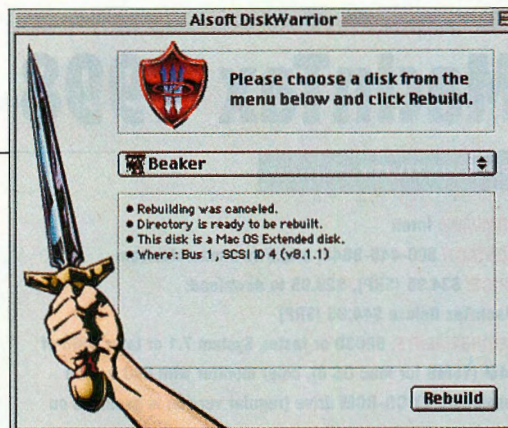
**THE DISKWARRIOR UTILITY**  
features a simple interface.

tory, which therefore *has* to function correctly.

Alsoft recommends that you run DiskWarrior before other disk utilities to prevent the latter from worsening any existing damage. Besides optimizing your directory, DiskWarrior fixes errors in the master directory blocks, volume headers, catalog and extent trees, volume bitmaps, and wrapper volumes.

DiskWarrior's nifty preview mode allows you to use the disk as you normally would, launching applications and opening files, to verify that all of your data is intact before finalizing the directory optimization.

DiskWarrior impressed us when we ran it. Verifying disk integrity with Disk First Aid and booting up took 15 percent and 30 percent



less time, respectively. Folders displayed their contents faster, effectively adding what felt like 25MHz of speed to our Macs. DiskWarrior is pricey, but ask yourself this: How much would I pay to keep my disk running fast and reliably?—*Erik J. Barzeski*

**GOOD NEWS:** Safely fixes disk directories. Noticeably improves drive speed. Simple interface.

**AppleScriptable. BAD NEWS:** Overpriced for its limited range of features.



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\*Indicates this title is available on video only.



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## MacInTax 1998

### PRODUCTIVITY

**COMPANY:** Intuit

**CONTACT:** 800-446-8848, <http://www.macintax.com>

**PRICE:** \$34.95 (SRP), \$29.95 to download;

**MacInTax Deluxe** \$44.95 (SRP)

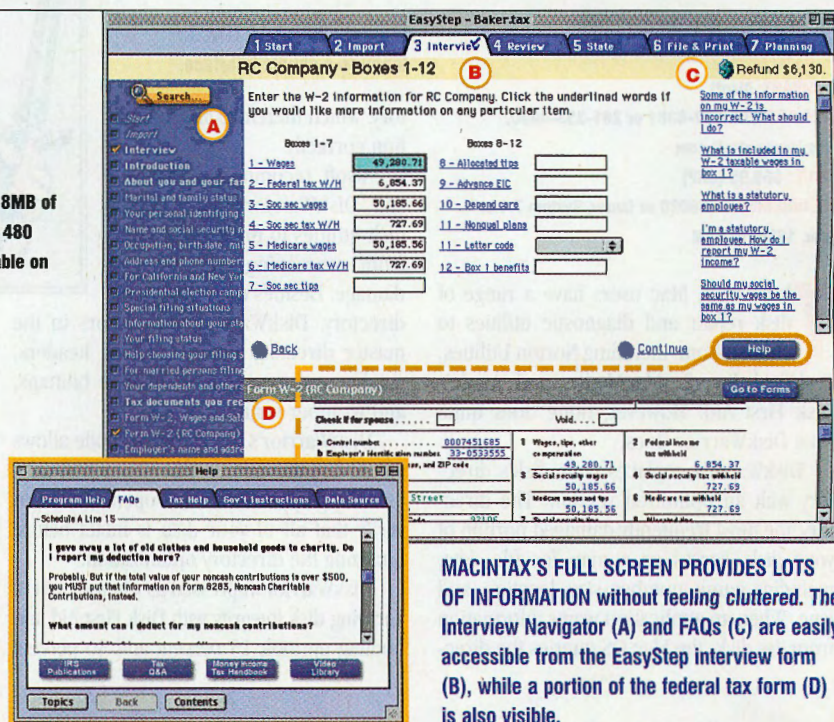
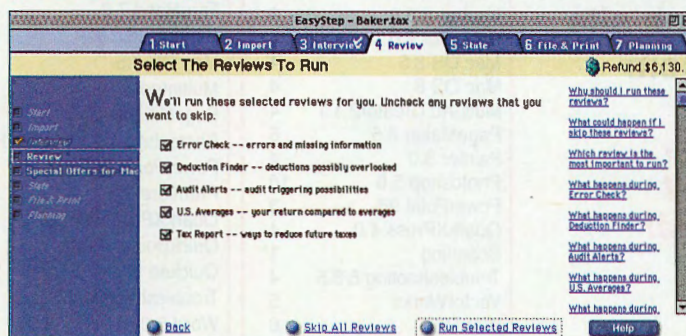
**REQUIREMENTS:** 68030 or faster, System 7.1 or later, 8MB of RAM (16MB for Mac OS 8), color monitor with 640 by 480 resolution, 2X CD-ROM drive (regular version is available on floppies or for download)

If you have any doubts about Intuit's commitment to the Mac, its MacInTax 1998 tax preparation program will banish them completely. Intuit overhauled the program, and the result is an outstanding application, challenging the theory that lack of competition inevitably leads to mediocre products.

The heart of MacInTax is its EasyStep interview system, which prompts you for tax-related information and automatically fills out onscreen IRS forms. As you begin entering data using EasyStep, you'll find an interface that's filled with information but doesn't seem cluttered. On the bottom of the screen is the part of the actual form or worksheet you are working on. You can't see much of the form on a 15-inch screen, but click the Go To Forms button and you can view and edit the form in its entirety.

As you work, MacInTax calculates how much of a refund you are due or what you owe in the upper-right corner of the screen. When you complete your return, you can review it; the program flags possible errors, offers hints about potential tax write-offs, and warns you if you're audit bait. You can also compare your tax payments to those of

**AFTER YOU'VE ENTERED ALL YOUR DATA,** you can review your return for possible errors, missed deduction opportunities, and any audit triggers.



**CONTEXT-SENSITIVE FAQs** provide helpful answers in plain English.

others in your income bracket.

The most obvious change that veteran MacInTax users will notice is the overhaul of EasyStep. As you enter information, the application sifts through hundreds of interview questions and IRS forms and eliminates those that probably don't apply to you. At first this improvement requires patience—sometimes it took us more than 60 seconds to move between these initial screens on a Power Mac 4400/200—but it's a great time-saver in the long run. (In prior versions, you had to manually bypass lots of questions and forms that didn't apply to your tax situation.) You can quit the interview at any

time; when you reopen MacInTax, it returns to where you left off.

A second improvement to the program is the grouping of many screen forms you had to fill out separately in earlier versions. For example, you can now enter most of your W-2 information on one screen.

**MACINTAX'S FULL SCREEN PROVIDES LOTS OF INFORMATION** without feeling cluttered. The Interview Navigator (A) and FAQs (C) are easily accessible from the EasyStep interview form (B), while a portion of the federal tax form (D) is also visible.

With fewer screens to scroll through, we noticeably reduced our input errors.

In our testing, MacInTax performed flawlessly. It never crashed, always brought us to the proper next step, and consistently provided context-sensitive help that proved useful in interpreting complex tax laws.

Like previous versions, MacInTax 1998 enables you to enter data in a variety of ways: importing it from Quicken or other personal finance programs, entering it in the EasyStep interview, or inputting it directly into the forms. We used all three methods, and MacInTax combined the data accurately. It also allows you to mark figures as estimated and revise them when you have the final numbers.

Intuit offers a Deluxe version of MacInTax that comes with *Money* magazine's *Income Tax Handbook*, official IRS publications, tax planning resources, and short video clips of tax experts offering advice. We found these additions useful, and probably worth the extra \$10 you pay for them. —Jeff Merron

**GOOD NEWS:** Improved, streamlined EasyStep interview. Consolidated data entry forms. Excellent context-sensitive help. Flawless performance.

**BAD NEWS:** None.





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# reviews

reviews

## Myth II: Soulblighter

### FUN & GAMES

**COMPANY:** Bungie Software Products

**CONTACT:** 800-295-0060 or 312-397-0500,

<http://www.bungie.com>

**PRICE:** \$49.95 (SRP)

**REQUIREMENTS:** 100MHz 601 or faster (604e or faster recommended), System 7.5 or later, 32MB of RAM, 50MB of free hard disk space for small install (500MB for large install), 4X CD-ROM drive, 16-bit color monitor, 3D hardware acceleration recommended; Bungie.net requires OpenTransport 1.1.2 or later and a 28.8-Kbps or faster connection

**W**hen Bungie's *Myth: The Fallen Lords* exploded onto the gaming scene in late 1997, it immediately became a masterpiece of squad-based real-time strategy, revolutionized the tired 2D genre with 3D, and gave rise to an online community numbering in the thousands. *Myth* was one of the best computer games ever for the Mac or PC, and to top such an achievement was a daunting endeavor. Fortunately, Bungie listened to fan feedback and has made *Myth II: Soulblighter* a to-die-for sequel. Call us *Myth* worshippers if you will, but *Soulblighter* *is* freakin' awesome, so if you missed out on the first *Myth*, don't repeat the mistake.

*Myth II: Soulblighter* picks up 60 years after the Great War, at the conclusion of which the Light defeated the Dark by throwing Balor's head into the Great Devoid. One of the Fallen Lords, Soulblighter, remained alive, however, and he has returned to open



BREEZY NEW 3D MODELS bring *Myth II*'s landscape to life. Powerful new units, like the fireball-throwing Warlocks and the massive hoglike Mauls, add excitement to bloody battles.

a can of whoop-ass on the Light. We're not going to give away the plot, but suffice it to say that *Myth II*'s story is deeply captivating. As weird as it seems, you'll end up caring about the Light—its political struggles and alliances, individual battles against the Dark, and quest for survival—because it's so engrossing. Core gamers tend to applaud *Myth*'s *Braveheart*-like gorefest while down-

playing the Tolkien-esque narrative and setting; but *Myth II*'s story, with its eloquent narrative progressions, is a gem.

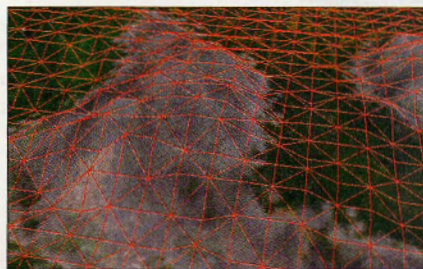
Once you begin single-player *Myth II*, you'll notice a couple of improvements over its predecessor. First, Dwarves are no longer loose cannons. (In *Myth I*, they gave the term *friendly fire* a new definition.) Still, you should keep an eye on them. Second, moving



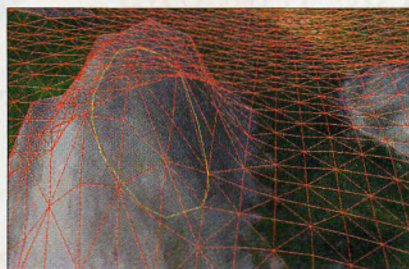
FIND A  
DEMO of  
*Myth II* on  
The Disc.

## Mountains Out of Molehills

IN ONLY A FEW HOURS, a flat color map imported from *Myth: The Fallen Lords* gains height to become a playable facsimile of the original.



**1** Launch Loathing. Open a map from *Myth I* or *Myth II*. (Here, we opened "For Carnage Apply Within.") Turn mesh viewing on; you'll see the mesh in red. Pick a spot on the rock.



**2** Using the yellow Shape tool, pass over the areas on the mesh you want to modify. Repeat the effect until you attain the elevation that you desire.



**3** Save changes. Be sure to rename your newly modified map or you'll overwrite the original. Place the modified map in *Myth II*'s Map folder. Launch *Myth II* and check the results of your work.



a group doesn't ruin its formation; you can finally stop pressing formation keys like mad. Third, you can use the new Control Bar for formations and special controls, so if you want to opt for just the mouse, you can. This doesn't help old-school players, but it's a nice option for newbies and those of us who eat and drink while playing (hey, it happens). Also, rolling the mouse over a unit now reveals its health, which saves clicking. These improvements seem subtle, but for a game in which micromanagement of individuals and groups is all-important, they're most welcome.

Going beyond interface tweaks, Bungie dove into the Myth engine to bring enhancements that make for more-realistic and engaging gameplay. Myth II renders with twice as many animation frames. The 3D mesh underlying all terrain is four times finer, producing better landscapes and allowing much better unit-path finding. A new magic system, 3D fire, and some ambient wildlife also rev up gameplay. But Bungie didn't add Bambi and Babe for prettier scenery: Three new multiplayer games—Stampede, Hunting, and Assassin—use animals as prizes for contention.

Soulblighter is also a more impressive world, full of challenging environments. Animated 3D models such as windmills and drawbridges bring the landscape to life. Nerve-racking levels let you penetrate a castle and flush out a conspirator, and to storm beachhead fortifications from an amazingly rendered ship. Above all, the models are interactive: You can blow holes in city walls with mortar, destroy a strategically important bridge, and watch blood spatter on walls. Do your own interior decorating!



**THERE'S TROUBLE IN PARADISE.** Bungie's beautiful new Net maps and stunningly devious new games redefine multiplayer carnage.

Many Mythers got a year's worth of play from the original Myth by using Bungie's free online gaming service, Bungie.net. The second version provides improvements in both user-friendliness—with new lists to hook up buddies easily—and reliability (it has wider plug-in support and a networking engine that syncs better). The new Bungie.net also implements a more balanced scoring system that rewards players for success in different game types. So all you BC Trowers out there, get with the program!

What else rocks? With Bungie's included proprietary editors, Fear and Loathing, the mapmaking process is a lot easier than the hex-editing hacks we used to do. Loathing modifies and adds objects to a mesh, and Fear modifies the game's resources or tags so that you can make new sounds, objects, or units. By bundling editing tools with Myth II, Bungie has ensured online replayability.

## Kicking Ass and Taking Names

**Shield your guys:** Weave your Bowmen into your infantry to protect them from swift enemies.

**Group target practice:** Beware—tightly clumped units make an irresistible target for a Bowman's flaming arrow or a Warlock's fireball.

**Melt heavy metal:** While the formidable Stygian Knights are totally immune to Bowmen, a good explosion sends breastplates flying.

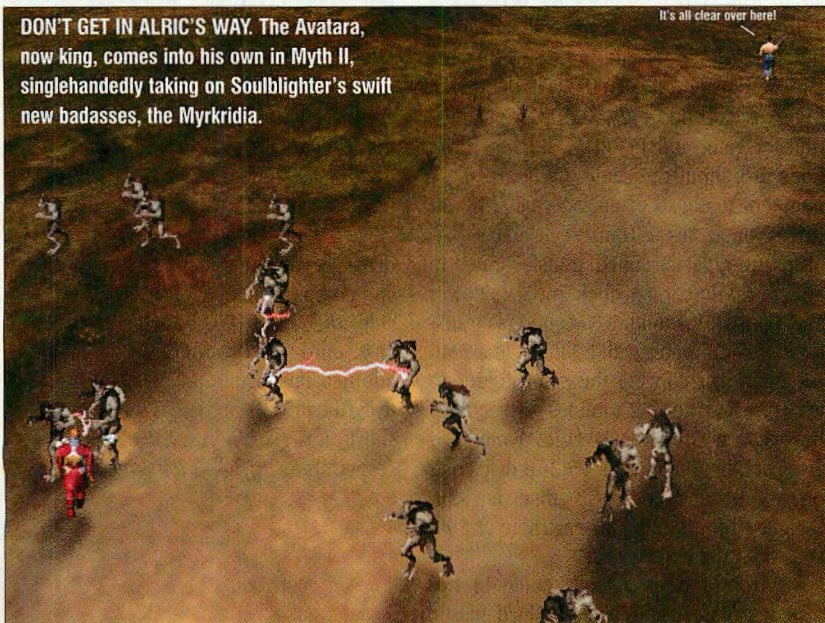
**Don't call PETA:** Shift-Option-click allows you to target wildlife. Shoot the Soul-blight-er frogs—think Bud-weis-er—in the Northwest corner of Level 3 ("Down a Broken Path") to get a secret level.

**Kick ass again:** For another surprise, leave Level 20 ("A Murder of Crows") from the Northeast to clean up the Dark's hidden camp.

Look for new maps to appear regularly.

Myth: The Fallen Lords was daunting for the casual gamer, but Bungie has done a lot to make Myth II: Soulblighter more accessible. In addition to mouse-only play, an expanded tutorial and simple starter levels make learning easier. And the difficulty settings affect gameplay to a greater extent; the Timid setting, for example, is a pushover, while the Legendary setting is a nightmare even for veterans. Bungie.net 2 sets aside rooms for beginners, too. We don't need to convince Myth fans to get Myth II, but newbies to real-time strategy gaming should check it out.—Jennifer Ho and Samuel Parker

**DON'T GET IN ALRIC'S WAY.** The Avatara, now king, comes into his own in Myth II, singlehandedly taking on Soulblighter's swift new badasses, the Myrkridia.



**GOOD NEWS:** Engrossing story. Improved artificial intelligence and path finding. Awesome graphics, sound, and music. Support for Glide and RAVE. Enhanced interface. Multiplayer option via AppleTalk, LAN, or Bungie.net. Multiplayer buddy and order search. Real anime cut scenes. Comes with powerful editing tools. **BAD NEWS:** Minimum system requirements are understated.







# LaCie DVD-RAM

## HARDWARE

**COMPANY:** LaCie

**CONTACT:** 503-844-4500, <http://www.lacie.com>

**PRICE:** \$799.95 (SRP)

**REQUIREMENTS:** 68030 or faster, System 7.5 or later, SCSI Manager 4.3-compliant card, 5MB of free hard disk space

**SPECIFICATIONS:** Stores up to 5.2GB per double-sided disc; 2MB buffer; reads all existing 12cm discs, including CD-ROM, CD-R, CD-RW, DVD-ROM, and DVD-RAM (DVD-Video requires hardware or software MPEG-2 decoder)



Photo by Aaron Lauer

In print and multimedia production, storage capacity is always a concern. Now LaCie has a product that provides storage space for those of us with cramped hard disks. LaCie's new external SCSI DVD-RAM drive, the first of its kind for the Mac, can hold up to 5.2GB on one double-sided disc and is compatible with a wide array of

**THE LACIE DVD-RAM drive features a huge 5.2GB capacity and inexpensive media in a well-designed, if pricey, box.**



**A DVD RAM CARTRIDGE can hold up to 5.2GB—about a penny per megabyte.**

disc formats, making it an excellent solution for reading and writing backup files.

DVD-RAM is a rewritable variation on the DVD specification. Like standard DVD, it can store a large amount of data: 2.6GB on a single-sided disc or 5.2GB on a double-sided disc. DVD-RAM drives can also read CD-ROMs, DVD-ROMs, and DVD-Video, just as any other DVD drive can. Unfortunately, no other type of device can read single-sided DVD-RAM media (although fourth-generation and later DVD-ROM drives can read the format's double-sided discs).

Considering the troubled, convoluted history of the DVD-RAM format, this drive's level of compatibility is very impressive. The

LaCie DVD-RAM reads any 12cm disc media—including CD-ROM, CD-R, CD-RW, CD Video, audio CD, VideoCD, DVD-ROM, DVD-Video, PD cartridges, and of course DVD-RAM—and should be compatible with the forthcoming DVD-Web format. It can also write to DVD-RAM and PD cartridges. It does a good job with DVD movie playback and works as well as any internal DVD-ROM drive, as long as you have either an MPEG-2 decoder card or a software-based MPEG-2 decoder.

As with any storage format, throughput is always an issue. The LaCie DVD-RAM does reasonably well. Seek times and transfer rates vary by format but are consistently good. With DVD-RAM discs, the drive has a 120ms seek time, a 5-MBps asynchronous-burst transfer rate, and a 1.38-MBps sustained transfer rate. DVD-ROM delivers a 95ms seek and a 2.77-MBps sustained transfer rate, and CD-ROM and its variations are about the same. Compare these numbers to those of an external 2GB Jaz drive, which has a 10ms seek and a 7.4-MBps average sustained transfer rate. In real-world time, on a stock 266MHz Power Mac G3 it took 1 minute 8 seconds to transfer a 36.7MB folder with 69 items to a 2MB Jaz cartridge; copying the same folder to the DVD-RAM took 2 minutes 43 seconds. But while it is slower, DVD-RAM media is also rock-bottom cheap: A 5.2GB disc costs only \$39, and a 2.6GB disc is \$29. Compared to the 2GB Jaz cartridge at \$99, DVD-RAM media is a steal.

DVD-RAM discs actually come in two varieties: Type I and Type II. Hard plastic

cartridges enclose both types, making them resemble CD-size floppies. The Type I disc stores 5.2GB on two sides. To access data on both sides of the disc, you must remove it from the drive, turn it over, and reinsert it. Type I discs are compatible only with DVD-RAM drives. Type II discs are single-sided 2.6GB media that you can remove from the cartridge; a fourth-generation or newer DVD-ROM drive can read them.

The LaCie DVD-RAM comes in a 5.25-inch half-height housing with a fairly standard set of features. On the front of the drive is a headphone jack and a volume control for audio, as well as an eject button and a power light. The rear of the enclosure has two 50-pin Centronics SCSI ports, an easy-to-set SCSI ID address wheel, and a clearly labeled SCSI termination switch.

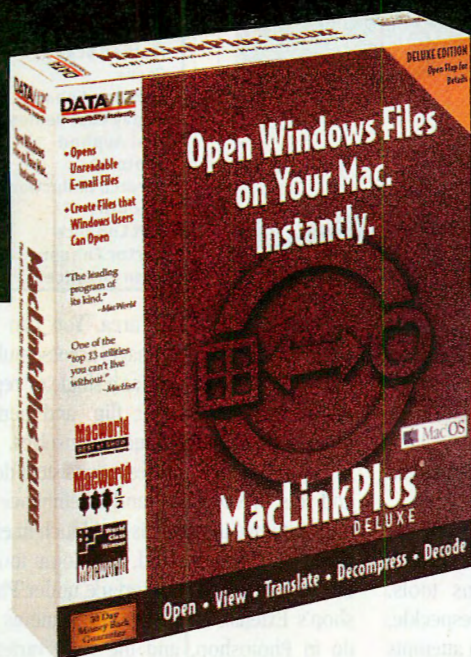
DVD-RAM has a lot of good things going for it. Its media capacity is huge, and the discs themselves are inexpensive. The drive is compatible with a wide array of 12cm media. Transfer rates, although slower than those of your average Jaz drive, are acceptable for backup purposes and comparable to CD-RW's. On the downside, the LaCie DVD-RAM drive is expensive, and few production shops have adopted the format. So, despite the positives, the price factor keeps the drive's rating short of a *Freakin' Awesome*, but at a very respectable *Spiffy*. —Rick Sanchez

**GOOD NEWS:** Huge capacity. Supports wide range of formats. Low-cost rewritable media. **BAD NEWS:** Expensive. Media is not yet in wide use.





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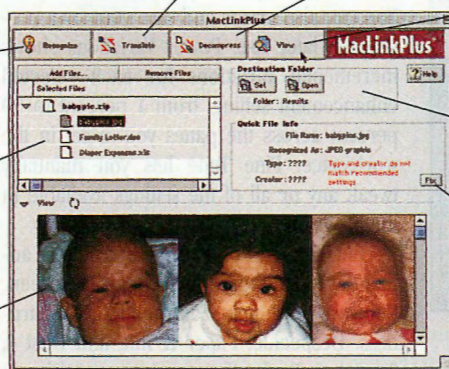
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# IntelliHance Pro 4.0

## DESIGN & GRAPHICS

**COMPANY:** Extensis Corporation

**CONTACT:** 800-796-9798, <http://www.extensis.com>

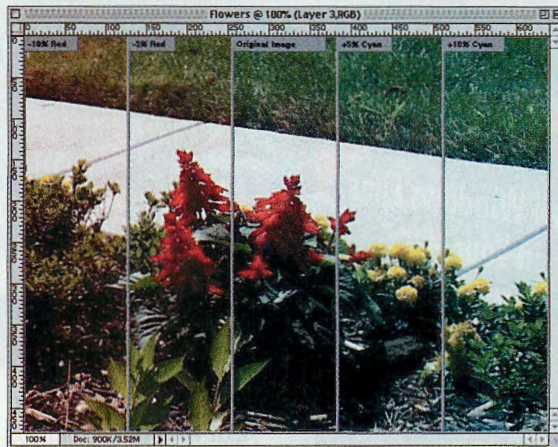
**PRICE:** \$199.95 (SRP), \$69.95 upgrade

**REQUIREMENTS:** Power Mac, System 7.5.5 or later, 32MB of RAM, Adobe Photoshop 4.0 or later

Many consider Adobe Photoshop the ultimate image-retouching application. However, you must devote a lot of time to learning how to use it before you can fly through its Variations, Curves, Color Balance, Hue and Saturation, and Levels dialog boxes to correct and enhance your digital images. If you don't have that many hours to spare, you may benefit from IntelliHance Pro 4.0. The latest in a series of fine Photoshop plug-ins from Extensis, IntelliHance Pro 4.0 extends the previous version's features while maintaining the interface we love.

Beginners and professionals alike will appreciate all that IntelliHance Pro 4.0 has to offer. Novices will cherish the package's Quick Enhance feature, which determines and applies the settings that best enhance a selected image. In our tests, Quick Enhance was often all we needed to make images look

OVER 20 PRESETS ARE AVAILABLE for common image types. Choose one—that may be all you need to do!



**INTELLIHANCE PRO 4.0 OFFERS MULTIPLE FEATURES, including test-strip output.**

their best. For example, we Quick Enhanced the red flowers you see on this page.

More-advanced users will want to explore IntelliHance Pro's intuitive Preset, Fine Tune, and Power Variations tools. Presets include Digital Camera, Despeckle, and Scratch Reduction. Each preset attempts to correct the problem its name describes. You can also create and save your own presets for later use. Power Variations shows incremental variations for each selected enhancement setting, from 1 percent to 50 percent across the panes you've set in the workspace. Fine Tune lets you manually tweak any or all of the settings available in the program.

IntelliHance Pro 4.0 has a variety of adjustment settings, including Descreen, Contrast, Brightness, Saturation, Cast, Sharpness, Despeckle, Paper & Ink, and Dust & Scratches. Each offers predetermined levels

and advanced settings with standard slide bars and text boxes. IntelliHance also has a variable layout system that allows you to view your image in anything from a 1 by 1 to a 5 by 5 matrix, so you can readily compare up to 25 different versions of your image within the

### Extensis

#### PhotoBars

IntelliHance™ Pro 4.0  
PhotoBevel 3.0  
PhotoButton 3.0  
PhotoCastShadow 3.0  
PhotoEmboss 3.0  
PhotoGlow 3.0  
PhotoGroove 3.0  
PhotoTexture 3.0...

About Extensis...

#### IntelliHance™ Pro 4.0...

Quick Enhance  
Bright Enhance  
Clean Up  
Dark Image Enhance  
Darken  
Deep Enhance  
Descreen  
Despeckle

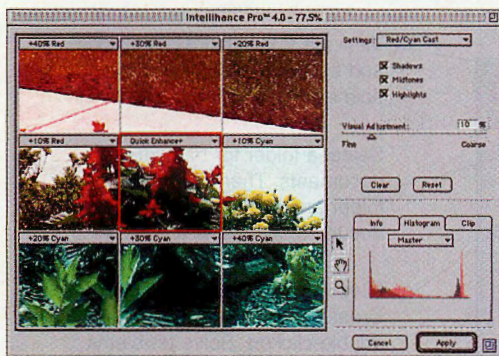
#### Digital Camera

Digital Camera Flash  
Drum Scanner  
Dust Reduction  
Edge Enhance  
Flatbed Scanner  
Focus  
Halftone Enhance  
Heavy Cast Removal  
Last Applied  
Photo CD  
Scratch Reduction  
Smooth  
Soft Enhance  
Vector Enhance  
Vivid Enhance

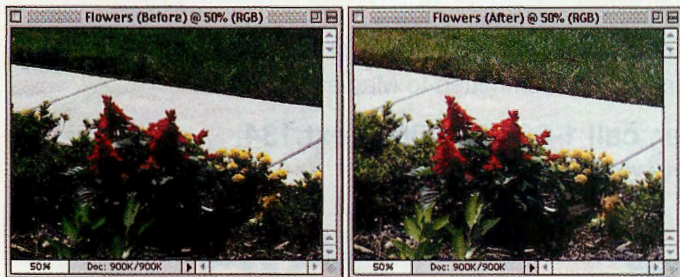
same area. You can view the image across multiple panes as a single or repeating image, and shuffle, flip, and perform other actions on the panes themselves.

Every Mac user craves a consistent design and lots of shortcuts, and IntelliHance Pro 4.0's intuitive interface is no slouch in either area. The Pointer, Hand, and Zoom tools in the IntelliHance Pro interface under Photoshop's Extensis menu act the same as they do in Photoshop, and the wide variety of shortcuts will save you time. For example, double-clicking the Hand tool fits the image to the window, while double-clicking the Zoom tool displays the image at its actual size. Because what you see onscreen is not always what you get in print, IntelliHance Pro 4.0 allows you to output any set of panes as a test strip. You can then print this strip, saved as a new layer by default, for ready comparison and judgment.

Whether you're a print or Web pro, a beginner or an advanced user, IntelliHance Pro 4.0 will speed your workflow and improve the quality of your images. Are you tired of trying to figure out how to use Photoshop's Variations dialog box? Got a lot of digital photos that could stand some Quick Enhancing? IntelliHance Pro 4.0 will serve you well.—Erik J. Barzeski



**INTELLIHANCE PRO ALLOWS YOU TO PREVIEW up to 25 (5 by 5) variations of your image.**



**THE QUICK ENHANCE PRESET alone is worth the cost of IntelliHance Pro 4.0.**

**GOOD NEWS:** Intuitive interface. High-quality presets. Scalable approach for all levels of expertise.  
**BAD NEWS:** You can't use it with other imaging applications.





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## Photoshop Plug-in Suites

### DESIGN & GRAPHICS

#### Andromeda Filters

**COMPANY:** Andromeda Software

**CONTACT:** 800-547-0055,

<http://www.andromeda.com>

**PRICE:** Shadow \$99 (SRP), Varifocus \$44 (SRP)

**REQUIREMENTS:** System 7.6.1 or later, Adobe Photoshop 4 or later (or other graphics programs compatible with Photoshop filters)

Other plug-in developers may play around, but Andromeda gets down to business with filters that cater to the serious photo imagist. Separate Andromeda packages, all under \$100, include plug-ins for mimicking optical lens effects, screen filters for line conversion and pseudo-mezzotints, a measurement filter for precise charting of high-resolution images, filters for 3D texture mapping, and a filter for creating motion trails. We looked at two new packs: the Shadow filter for 3D shadow mapping, and the Varifocus filter for creating depth-of-field effects.

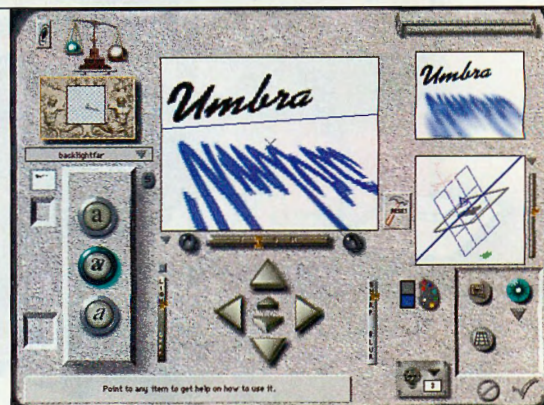
The Shadow filter is the slickest of the many 3D shadow tools on the market. You get unprecedented control of lights, camera, and object orientation and position, plus flexible navigation in 3D space (once you puzzle out the controls). Rendering quality is very high, with proper shadow falloff. The manual contains the best discussion of shadow effects and casting we've seen (in an almost unreadable font). Shadow is a must-have.

So is Varifocus, although it has its limitations. Varifocus lets you mask off areas and apply Gaussian blur to them to simulate areas in or out of focus—for example, a sharply defined foreground object against a blurry background. Like the depth of field that a

**ANDROMEDA'S SHADOW FILTER LETS YOU TWEAK every aspect of shadow casting in true 3D space...**

real photographic lens generates, Varifocus creates a blur graduated according to the distance from the lens's focal point, an effect difficult to achieve in Photoshop itself. Varifocus's own masking tools are limited—it comes with a selection of masking shapes, but within the filter you can't define a mask with a path for more-precise control. However, you can load images and use them as masks, meaning that with some prep work in Photoshop you can create depth-of-field effects that are essentially indistinguishable from those associated with lenses of various focal lengths. One thing we'd like to see with this filter is the direct ability to specify a focal length, an f-stop, and the subject's distance from the lens.

Following the lead of Kai Krause—the creator of Kai's Power Tools and the man most responsible for inflicting wacky widgetry on your Mac screen—Andromeda, Alien Skin, MetaCreations, and most other plug-in developers have developed their own arcane iconographies of control thingies. Want a mind-boggling exercise in visual interpretation? Try dropping in and out of a dozen filter sets per Photoshop session, each with its own peculiar take on the way OK buttons ought to look. (Forget about how to convey something *really* hard to visualize, such as a 2D depiction of spatial relationships in 3D.) Here's a plea for some plug-in sanity.



...and the results are impressively accurate.

After all, it's the image, not the interface, that counts.—Steven Anzovin

#### Shadow

**GOOD NEWS:** Best shadow-creation tool for Adobe Photoshop.

**BAD NEWS:** 3D controls take some getting used to.



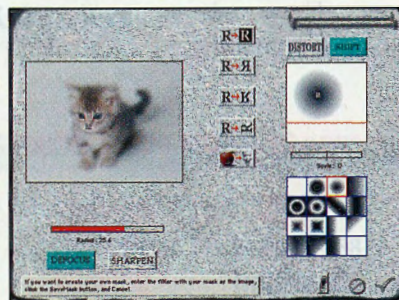
#### Varifocus

**GOOD NEWS:** Sorely needed depth-of-field effects plug-in.

**BAD NEWS:** Insufficient masking tools. Controls don't correspond to actual photographic parameters.



THIS LITTLE FELINE is too photographically sharp, so...



...we applied Andromeda's Varifocus filter to simulate a shallow depth of field...



...and focus attention on the cat's nose and eyes.

[continued on page 60]



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## Typeadelic

**COMPANY:** takeStock

**CONTACT:** <http://www.takestock-inc.com>

**PRICE:** \$129.95 (SRP)

**REQUIREMENTS:** Adobe Photoshop 4 or later

# TYPEDELIC

TYPEADELIC'S TYPE EFFECTS BRING BACK fond memories of the Fillmore West.

**P**hotoshop 5's beefed-up Text tool and type effects have eliminated the need for many type-related third-party plug-ins, at least when you're doing the same old shadows, bevels, and other ho-hum tricks. Artists jonesing for something typogroovically different should check out Typeadelic, a suite of 50 Actions and associated images that create elaborate, one-click wonders of type art.

Among the more useful tpestyles found here are Drip, which makes your letters drip paint (or ichor, more likely); Stars and Stripes, for patriotic banners right out of a Fourth of July sales circular; Satin, perfect for the Victoria's Secret or Linens 'n Things home pages; and the swirly, eponymous Typeadelic effect, a Deadhead's delight. All the effects involve combinations of outlining, embossing, beveling, pattern and color filling, shadows, glows, and distortions. Yes, you've seen some of these before, and yes, you could do

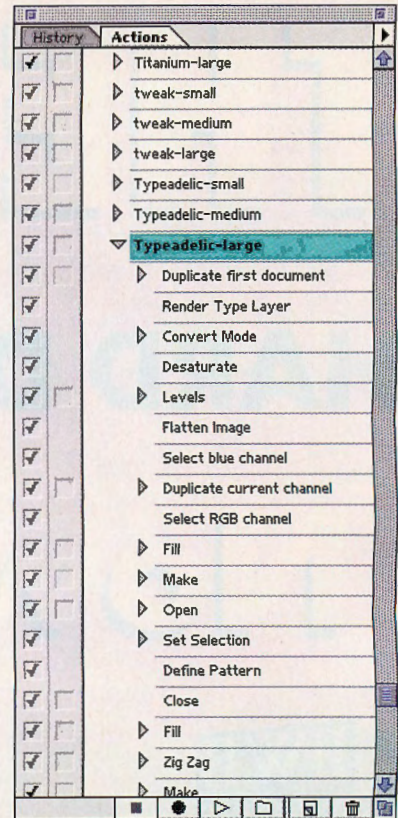
them yourself, but how long would it take?

A few of Typeadelic's effects may blow right past your personal kitsch threshold. (Try Flowerbed or Baby Boy to see what we mean.) Plus, not all the Actions work with the same setup, so you may have to create your images in different ways. For some, you first have to choose foreground and/or background colors or resize the canvas to leave lots of extra space around the type—and you'll find those instructions only in the CD case's little booklet. Also, the Typeadelic CD must be in the drive when you run Actions, so you'll have to pop out your *Aoxomoxoa* disc. But being able to buzz out while watching Typeadelic step through a tricky type effect makes up for temporarily silencing the Grateful Dead.—Steven Anzovin

### Typeadelic

**GOOD NEWS:** Mostly groovalicious type effects.

**BAD NEWS:** Strong flavoring of kitsch.



**UNDERNEATH THE HOOD, TAKESTOCK'S TYPEADELIC BOASTS some of the best uses of Actions we've seen.**

## Xenofex 1.0

**COMPANY:** Alien Skin Software

**CONTACT:** 888-921-7546, <http://www.alienskin.com>

**PRICE:** \$129 (SRP)

**REQUIREMENTS:** System 7.5 or later, Adobe Photoshop 3.0.4 or later (or other graphics programs compatible with Photoshop filters)

**M**eanwhile, from the entities at Alien Skin, maker of Eye Candy 3, comes Xenofex, a new suite of fun filters. Most of these simulate entropic effects, natural or otherwise. The Stain filter makes bloodstains, mud stains, or a ring around the collar. Crumple wrinkles surfaces that

are too flat and pristine, while Distress eats away at type that's too readable (or any other object). Baked Earth parches your selection like a New Jersey mudflat in August. If that's not enough corruption and decay, there's also Shatter, Shower Door, Origami, Stamper, and Television for general-purpose decomposition.

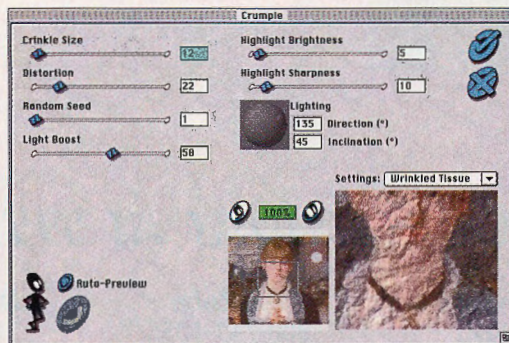
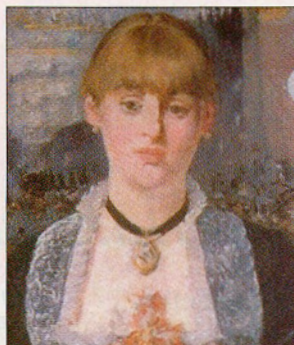
On the lighter side, Xenofex offers Little Fluffy Clouds, a cloud-crafting tool that's a definite step up in sophistication from Photoshop's own Clouds filter (although, sadly, you can't actually specify real cloud types such as stratus and nimbus). You also get two wiggly-lightning effects, Lightning and

Electrify, that are a bit hard to control. Sticking out like a sore marketing hook is the one "by popular request" filter, Rounded Rectangle, which makes, yes, nice rounded rectangular borders with controllable shadows and lighting. You can use that one to convince yourself (or your art director) you really need Xenofex for productive work, then spend all your time generating cool new kinds of coffee stains.—Steven Anzovin

### Xenofex 1.0

**GOOD NEWS:** Cool, fun filters.

**BAD NEWS:** More fun than useful.

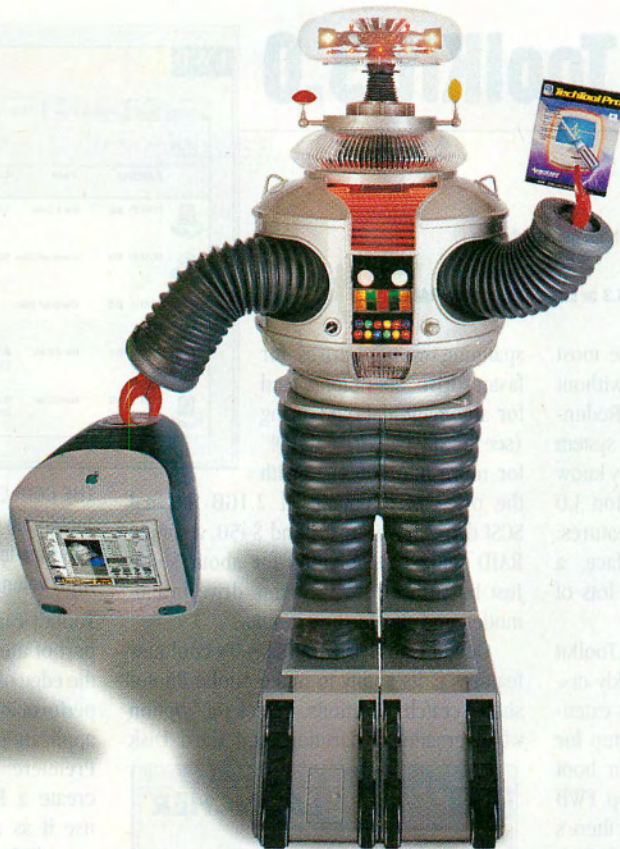


WE TOOK this well-known Manet... ... and using the Crumple filter in Alien Skin's Xenofex...

...reproduced the image on wrinkled tissue paper. It's just one of Xenofex's many types of decomposition.



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# Hard Disk ToolKit 3.0

## UTILITY

**COMPANY:** FWB Software

**CONTACT:** 800-581-4392 or 415-345-4300, <http://www.fwb.com>

**PRICE:** \$125 (SRP), \$49 upgrade

**REQUIREMENTS:** 68030 or faster, System 7.5.3 or later, 5MB of free RAM

Those of us who want to get the most out of our storage devices without spending \$10,000 on a RAID (Redundant Array of Independent Disks) system and custom software probably already know about FWB's Hard Disk ToolKit. Version 3.0 adds some new and interesting features: RAID support, an all-in-one interface, a bootable CD-ROM, and support for lots of ATA and IDE devices.

Installing and using Hard Disk ToolKit 3.0 was a breeze, although we quickly disabled the FWB Tools extension. This extension, which checks all drives at startup for problems, is handy but slows down boot time considerably. The new one-stop FWB Launcher interface reminds users that there's more to ToolKit 3.0 than hard drive initialization and partitioning tools, and the new tabbed interface is plenty easy to navigate. All the power that ToolKit users have come to know is still there, too—features such as BenchTest, Unix partition creation, and security options are available right up front.

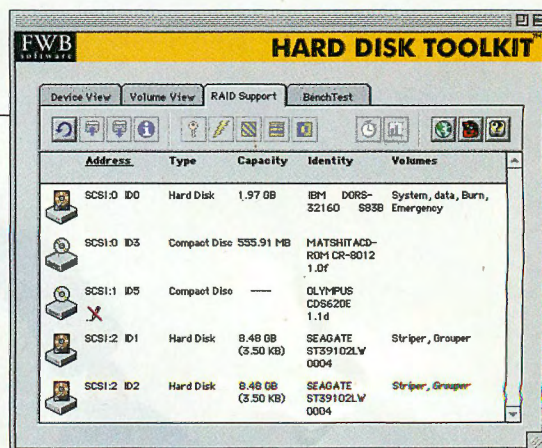
ToolKit 3.0 also rolls RAID support into the basic hard drive package. The utility formerly known as RAID ToolKit is now part of Hard Disk ToolKit, and it's great. Folks working at home with two plain-vanilla SCSI hard drives can now try uniting them for a variety of benefits: to create a single volume

spanning two hard drives, for faster drive operations, and for automatic data mirroring (see the sidebar "It's a RAID!" for more information). With the price of a couple of 2.1GB internal SCSI drives hovering around \$450, a simple RAID setup can be yours for about \$600. Just be sure to use the same drive brand, model, and size for best results.

One of Hard Disk ToolKit 3.0's cool new features is its ability to make Adobe Photoshop scratch partitions. Select this option when creating a partition, and Hard Disk



**IT'S ALL IN ONE PLACE:** Hard Disk ToolKit 3.0's tool suite is right up front in the launcher, with easy one-button access.



**THE COOLEST NEW FEATURE** of Hard Disk ToolKit 3.0 is its RAID support. Use this interface to create any one of three types of RAID volumes.

ToolKit can put that partition on the fastest part of the hard drive (the ring of media on the edge of the disk platters). This can boost performance noticeably for disk-intensive applications such as Photoshop and Adobe Premiere. Enterprising users may want to create a Photoshop scratch partition and use it as a virtual memory partition. Hey, every little bit helps.

Look out for a couple of problems when using Hard Disk ToolKit 3.0. RAID volumes using Adaptec SCSI cards with older firmware may be corrupt (Adaptec should have updaters on its site at <http://www.adaptec.com> by the time you read this). Also, there have been reports of conflicts between ToolKit 3.0 and Norton Utilities for Macintosh 4.0, which FWB says you can resolve by updating to the latest version of Norton Utilities.

For those who are serious about storage—be it tweaking drives for optimal performance, RAID setup, or experimenting with Mac Linux variants—FWB's Hard Disk ToolKit 3.0 is the tool for the job. This comprehensive utility suite covers all things related to your hard drive, including RAID, SCSI, IDE, removable volumes, troubleshooting tools, tweaking, and diagnostics. It's a valuable addition to any Mac geek's software library. —David Reynolds

## It's a RAID!

**H**ard Disk ToolKit 3.0 supports the creation of three types of RAID volumes: striped, spanned, and mirrored. Here's the lowdown on each type.

**Striped:** A striped RAID setup means *speed*. It puts two or more drives together to form one volume, which means that two read-write heads, not just one, are available to stream data. As a result, transfer rates can be as much as 1.8 times faster than with a single hard drive. There is a catch, though: This setup spreads bits of all the files among multiple hard drives, so if one drive fails, then most or all of the data on a striped volume can disappear forever. Back up frequently to a nonstriped drive for safety.

**Spanned:** A spanned RAID setup combines two physical hard drives into one volume on the Mac's desktop—much like a striped array. The main difference is that individual files end up on one drive or the other, rather than spread between two drives (unless the file is fragmented). A spanned array, though slower, is safer than a striped array.

**Mirrored:** A mirrored RAID setup combines two drives into one volume on the desktop, too. In this case, however, the data exists on both volumes simultaneously, so if one drive in a mirrored array fails, the other drive contains a perfect copy of the data. Mirrored arrays are great for backing up important data.

**GOOD NEWS:** Lots and lots of hard drive options. Photoshop scratch partition option for speed increase. RAID support. Unified interface. Bootable CD-ROM. **BAD NEWS:** Interface still a bit confusing. Fine-tuning options can be intimidating.







## Mach Speed G3/400

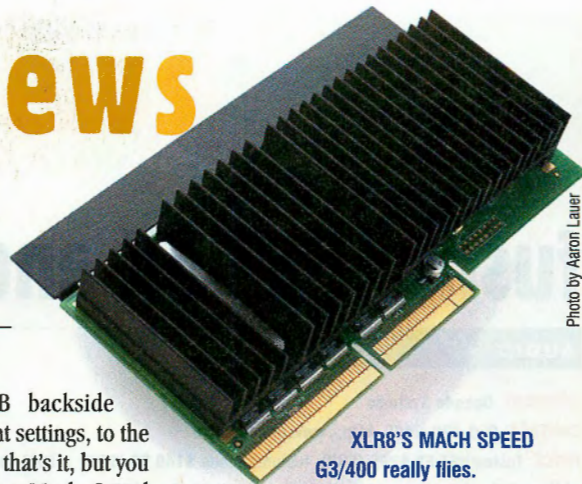


Photo by Aaron Lauer

### HARDWARE

**COMPANY:** XLR8 by Interex

**CONTACT:** 800-513-9744 or 316-636-5544,

<http://www.xlr8.com>

**PRICE:** \$1,649 (SRP)

**REQUIREMENTS:** Apple Power Mac 7300, 7500, 7600, 8500, 8600, 9500, or 9600; Power Computing PowerWave, PowerCenter, PowerCenter Pro, PowerTower, or PowerTower Pro; Umax SuperMac S900 or J700

**S**peed, like good health, is something you miss only when it's gone. I never considered my Power Mac 7600 slow until I returned the Vpower G3/300 upgrade I reviewed (see Dec/98, p84). Suddenly my 132MHz PowerPC 604 felt like it was on its deathbed. To restore my Mac's vitality, I popped in XLR8's Mach Speed G3/400, the first 400MHz upgrade card on the market.

Installation is simple: Just replace the daughtercard and copy a control panel,

which enables the 1MB backside cache and confirms current settings, to the hard drive. If you're lucky, that's it, but you may have problems if the Mach Speed G3/400 conflicts with cards on the PCI bus or other components of your system. The Multiple Variable Processing feature lets you set the card's speed from 220MHz to 400MHz using DIP switches. My 7600 functioned well enough at the top speed for me to perform benchmark tests, but it crashed and froze more often than usual during daily use. To restore stability, I had to turn the CPU down to 366MHz with a bus speed of 46MHz.

MacBench 4.0 reported a CPU score of 1,392 (4.8 times faster than the stock 7600/132) and a floating-point score of 993 (3.2 times faster). Motorola's free LibMotoSh extension raised the floating-point

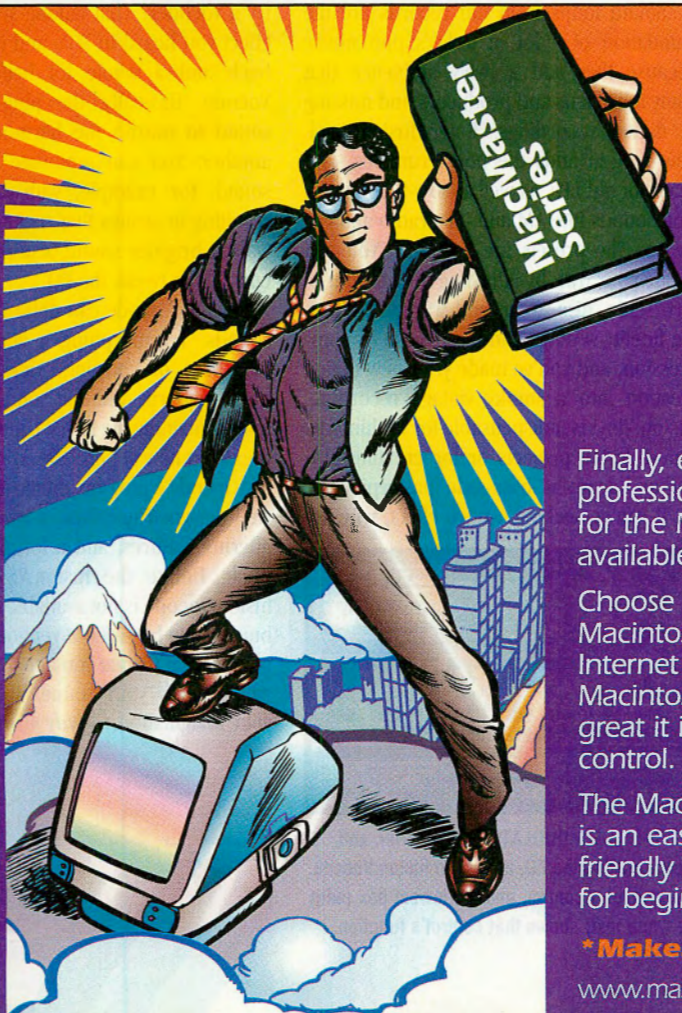
**XLR8'S MACH SPEED G3/400 really flies.**

scores 28 percent. These results certainly are impressive and indicate a meaningful speedup that exceeds all other options, but they're only 33 percent faster than the Vpower G3/300, which costs half as much. And if your Mac can't run full out with the CPU at 400MHz and the bus at 50MHz, you'll be paying for performance that you can't use.—Owen W. Linzmayer

**GOOD NEWS:** Significant speed increase. Quiet (no fan). Two-year warranty, 30-day guarantee, Toll-free technical support. **BAD NEWS:** Expensive. As with all G3 upgrades, its Mac OS X support is uncertain.



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# fusion:VST FX and fusion:Vocode

## AUDIO

**COMPANY:** Opcode Systems

**CONTACT:** 650-429-2400, <http://www.opcode.com>

**PRICE:** fusion:VST FX \$295 (SRP), fusion:Vocode \$149.95 (SRP); a TDM version of Vocode for Premiere and AudioSuite is available for \$395

**REQUIREMENTS:** PowerPC 604 or faster recommended, System 7.6.1 or later, 32MB of RAM, CD-ROM drive

Opcode's new fusion plug-ins supercharge your audio-editing capabilities. Both the fusion:VST FX bundle and fusion:Vocode bring retro characteristics as well as fantastically futuristic effects to your sounds. The actual signal processing is complex, but the plug-ins are easy to use.

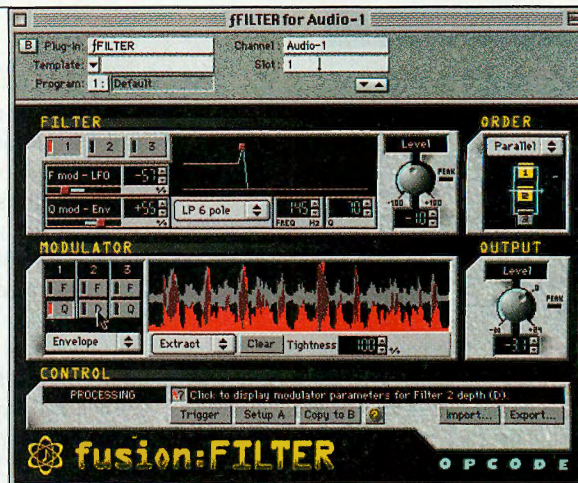
The VST FX bundle includes fusion:Filter, fusion:Vinyl, Chorus, Flanger, Echo, Ring Modulator Rezn8, and Panner—all in VST, Premiere, and AudioSuite formats (see the sidebar "Getting Plugged In").

Fusion:Filter is a versatile tool for changing the characteristics of your sound in a variety of ways. Use it as a classic equalizer effect to bring out the highs and lose the low rumbles. Add the modulators to imprint the rhyth-

mic feel of one sound file onto another, or use drum-machine editing to turn a sustained sound into a pulsating rhythm. There are ingenious ways to create filter sweeps and wild ring modulations. If these words mean nothing to you, download the demo and play with its knobs and buttons. It's all about making a sound come alive by emphasizing and suppressing specific frequencies in unusual ways.

Sound loops from old records are the foundation of a lot of today's pop music because they add a lively ambience that many musicians and producers find missing in digital recordings. Enter fusion:Vinyl. This plug-in adds the pops, rumbles, and warps of old LPs, as well as low-fi compression sounds like AM and '40s radio and car stereo. The presets are accurate. You can create your own by adjusting the amount of dirt, static, hiss, wear, and warp. Play with the fidelity settings and the degree of compression, and you've made your new digital creation into a smoky vintage recording. Fusion:Vinyl is indispensable for multimedia sound-design projects or for creating hip-hop and drum-'n'-bass-style masterpieces.

If you're seeking a retro effect, why not



**THE FUSION:FILTER INTERFACE** makes it easy to set up and route each of the three filters and modulators. Here an envelope extracted from a file of a man speaking modulates the resonance of a drum loop.

try a vocoder? That talking-synth, robotlike effect you heard in '70s and disco music is back and a whole lot better in fusion:Vocode. Basically, the plug-in uses one sound to morph the harmonic quality of another. You can modulate a long string sound, for example, with a speech file, resulting in strings that recite words. If you want a brighter sound, use the handy tone controls to tweak the EQ.

Fusion:Vocode can deliver some unique sounds. Try morphing a chainsaw with a heartbeat, or chirping crickets with a fast hi-hat pattern. Add that sound to the drum loop containing the hi-hat pattern, and you've created a new supercharged rhythm loop.

Opcode's plug-ins offer an exceptionally well-designed interface, a wealth of sound-altering features, and a lot of bang for the buck. Unlike the fusion:VST FX bundle, fusion:Vocode is not available in VST format, but you can buy a TDM version for \$395. No matter what format you need, these plug-ins will electrify your sounds to the limits of your imagination.—*Judy Munsen*

## Getting Plugged In

At first glance, audio plug-ins can generate a sense of chaos, confusion, and consternation. But a few facts can quickly sort out the mess.

You can use audio plug-ins in sequencers, audio file conversion programs, and audio- and video-editing software. Most plug-ins process sound files in the same way that hardware effects boxes (such as reverbs, limiters, and compressors) do, but cost a lot less.

There are about 11 plug-in formats available for the Mac. These are the most common:

**Premiere:** Used in Adobe Premiere, Opcode's Studio Vision Pro, Bias's Peak and Deck, Motu's Digital Performer, and other programs.

**Sound Designer II:** The oldest plug-in format for the Mac. This format requires a Digidesign audio card and Sound Designer software.

**AudioSuite:** Also by Digidesign. Opcode, Steinberg, Emagic, and Motu already support this open format.

**VST:** Opcode, Bias, and others support Steinberg's real-time plug-in, and it's growing in popularity because of its open spec and ability to process effects in real time rather than tying up your CPU.

**Pro Tools TDM:** Digidesign's widely supported, high-end, real-time format. It requires a Pro Tools core system (about \$9,000).



**SETTING THE MODULATOR** and carrier, and even adjusting the EQ, is easy in fusion:Vocode. Mouse over a control, and the lowest box (with the white text) shows that control's function.

**GOOD NEWS:** Exciting and unique sound-processing capabilities. Well-designed interface. Brilliant help features from within the plug-in.

**BAD NEWS:** The only real-time format available in fusion:Vocode is the pricey TDM version.





## ImageDeck

### HARDWARE

**COMPANY:** Microtek

**CONTACT:** 800-654-4160, <http://www.microtekusa.com>

**PRICE:** \$499.95 (SRP)

**SPECIFICATIONS:** 600-by-600-dpi optical resolution, 36-bit color, 12-bit gray scale, 8.5-by-11.7-inch scan size

The Microtek ImageDeck is one of those peripherals that creates a new product category out of existing technologies. The ImageDeck is primarily a scanner, but it's a self-contained device that doesn't need a Mac or PC to get the job done.

Technically, the scanner is about as good as a \$100 catalog special. It scans in 36-bit color, 12-bit gray scale, and black and white, with an optical resolution of 600 by 600 dpi. The scanning surface can accommodate documents and items as large as 8.5 by 11.7 inches.

What makes this scanner cost the extra \$400 is the built-in Zip and floppy drives and the PC serial printer connection. All you have to do to copy a document is place it on the scanning bed; select the compression, resolution, and color mode; pop in a floppy or Zip disk; and press the start button. The ImageDeck does the rest, automatically detecting how much of the bed area to scan and saving the image to disk per the ImageDeck's settings. If you hook up a PC printer

to the serial port, you can use the ImageDeck as a color printer. The ImageDeck is even smart about naming—it gives each scanned file an alphanumeric designation.

The ImageDeck has several nice features; however, it also has noticeable drawbacks. Microtek markets the ImageDeck to Mac users, but doesn't tell you that it's first and foremost a PC device. In fact, the ImageDeck works only with PC-formatted Zip disks and floppies, which the average Mac addict might not have lying around. The ad's claim that you can "save photos or documents to...Zip disks or 3.5-inch disks, then take them back to your Macintosh for email attachments, presentations, or other creative projects" glosses over the lack of immediate compatibility. Even though Macs can format floppies in DOS, Mac users have to complete additional formatting steps. And you can't format Zip disks for PC from a Mac Zip drive. Furthermore, you're supposed to be able to use the ImageDeck as a high-resolution copier for your office, but how many Mac printers can you attach to the ImageDeck's parallel port?

One last drawback to the ImageDeck is that it saves images with JPEG compression. Even at the lowest compression setting, highly detailed color images show a noticeable level of JPEG artifacts.

The ImageDeck clearly targets small busi-



Photo by Aaron Lauer

### LOOK, SCANNING—NO COMPUTER!

The Microtek ImageDeck is a stand-alone scanner that saves to Zip and floppy disks.

nesses and Web content developers who need to scan a lot of documents and don't want to tie up a computer. For the business market and for cross-platform environments, Microtek has created a compelling product. However, for anyone using a Mac at home or in a Mac work environment, the ImageDeck is overpriced and PC-centric. With scanner prices falling all the time and image quality increasing, a traditional scanner is a better option.—Rick Sanchez

**GOOD NEWS:** Easy to use. No computer required. Built-in Zip drive and floppy drive. **BAD NEWS:** Requires PC-formatted media. Uses JPEG compression, which causes noticeable JPEG artifacts.



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# power play

Are you ready to Quake, rattle, and roll?

## GameWIRE



This month we just can't stop thinking about **QUAKE III: ARENA**. John Carmack, id Software cofounder and Quake-meister, gave the **FIRST PUBLIC DEMO** of Arena, the multiplayer-only, polygonalicious shooter, at Macworld Expo. It was the demo heard 'round the world, as PC journalists scrambled to get in on the action for once and the major game Web sites rushed to cover the news. **APPLE'S ADOPTION OF OPENGL** was sweet, too, because OpenGL is the wunder-kind of 3D graphics libraries—and getting Carmack as well as Quake III and its progeny is thick, thick icing on the cake.

### Think **QUAKE III IS ALL HYPE?**

Carmack has never, ever made a flop—just a long string of ground-breaking and genre-defining titles.

Gee, maybe he should rename his

company Ego Software. In other Quake-related news, Logicware is porting **QUAKE II** and offshoots **SIN** and **HERETIC II** right now, so there are plenty of ammo rounds to spend in the months ahead. (Start writing to your members of Congress now.)

All's well that ends well, but here is something you didn't know. Apple was actually considering adopting **MICROSOFT'S DIRECT3D** for its next-generation 3D graphics library. Ouch! Similar to Apple's Game Sprockets on the Mac, Direct3D on the PC enables a variety of sound cards, peripherals, and hardware-acceleration devices to function properly. But we're glad Apple got on the OpenGL bandwagon.

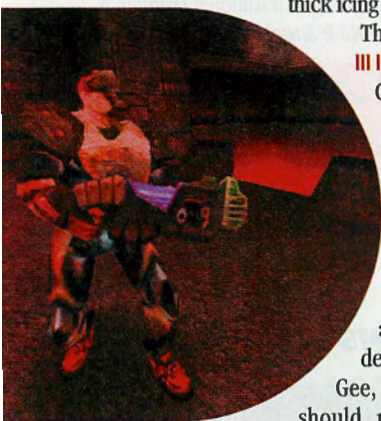
At Macworld Expo, Bungie Software's next game, **ONI**, was looking mighty fine; its engine is **40 PERCENT DONE**.

Meanwhile, Bungie programmer Jason Jones is up to something, and rumor has it that **BUNGIE WILL ANNOUNCE ITS NEXT PROJECT** at E3 in May. Could it be Myth III? What about Marathon 2000? We can't wait to



see whatever it is. Also at E3, we expect an **INITIAL UNVEILING OF DIABLO II**. Blizzard is all hush-hush about it now, but how many titles has it *not* done for the Mac as well as the PC? None.

**A FIRE DESTROYED TOTAL AUDIO**, the sound-production studio that created the music for Myth: The Fallen Lords and Myth II: Soulblighter. Marty O'Donnell and Mike Salvatori backed up their work offsite—thank goodness—but the disaster has delayed the Myth II soundtrack. Bungie is donating all proceeds from sales of the soundtrack to Total Audio, so if you want to help out, buy a copy.—JH



## GAMES & GEAR

Ariston's Hermes GamePad USB

Have you ever seen a bat-wing video game controller that epitomized cool? Well, thanks to Apple's adoption of USB, cool-looking devices previously available only for PCs are ready for your plug-in pleasure on the Mac. For example, this bat-wing gamepad, the Hermes from Ariston Technologies, is ready for the Mac today. It features eight specialized buttons, including throttle and rudder controls; eight directional buttons; a turbo function; and a haunting, manta ray-style



industrial design that fits both large and small hands. The stealthy Hermes wears its legendary name well, as the Greek god of commerce also ruled cunning and theft. To use the Hermes, you need a USB-equipped Mac, one available USB port, Mac OS 8.0 or later, and the included software. Of course, the Hermes gamepad supports Input Sprockets. To get more information on the \$44.99 Hermes, visit Ariston's Web site at <http://www.ariston.com> or call 714-846-7676.—JH

## TOP 10 HOTTEST MACWORLD Game Announcements

RANK	GAME TITLE	PUBLISHER	GENRE
1	Quake III: Arena	id Software	First-person spanker
2	Rainbow Six	MacSoft	First-person terminator
3	Quake II	Logicware	First-person liquidator
4	Heretic II	Logicware	Third-person nullifier
5	Civilization: Call to Power	MacSoft	Turn-based dominator
6	Railroad Tycoon II	GOD	Real-time coal-crusher
7	Imperialism II	Mindscape	Turn-based economizer
8	Sin	Logicware	First-person butt-whooper
9	Tomb Raider III	Aspyr Media	Third-person bra-buster
10	Alien Versus Predator	Fox/Logicware	First-person eliminator



# National Macintosh Gaming Championship '99, Part One

Mac gamers kick major booty in SF

**T**hey came, they played, they mostly lost—but hey, there could be only one winner. Everyone received something for participating in the event, though.

This expo's competition saw much better gameplay than the one in New York; from the looks of the final Quake challenge, which was among the best four-way deathmatches we've ever seen, it was obvious that most of the players were veterans. In another stunning deathmatch that took place in the final round of Unreal, the winner (who justly earned that title) accumulated almost 60 frags in 30 minutes with his killer ASMD combo—talk about shock-wave damage! Another highlight of the championship was the addition of play-by-play announcers. Their broadcast comments ("getting shpanked and shpanked again" and "you're not supposed to destroy buildings in Yoot Tower, but you know you wanna") made the competitions fun. We can't wait until part two in Boston!—JH

## Da Winners Are...

Yoot Tower	Benjamin Earhart
Lode Runner 2	Jim Fielder
Bonkheads Deluxe	Michael Holley
Tomb Raider II	Kent Hull
Jazz Jackrabbit 2	Alex Handy
Astrorock 2000	Michael Garrison*
Killing Time	Kent Hull
Master of Orion 2	Erwin Haag
Tempest 2000	Zack Stern
Shattered Steel	Chris Hillar
Marathon Team	Fred Torres & Scott Janssen
Myth Team	Mark MacEwen & Jose Miguel Chavez
Alley 19 Bowling	Ryan Vesler
Quake Team	Bradley Dutton & Reed Waller
Myth II Team	Peter Ferioli & Kenneth Badertscher
Unreal Team	Chris Priebe & Chris Hillar
Civilization II	Benjamin Earhart
Marathon	Michael Garrison*
Dark Vengeance	Tim Gonsalves
Myth	Mark MacEwen
Duke Nukem 3D	Michael Garrison*
Carmageddon	Alex Handy
Quake	Chris Hillar
Myth II	Jose Miguel Chavez
Unreal	Arthur De La Cueva

\*\$5,000 Grand Prize Winner!



**MARATHON TEAMSTERS** Fred Torres and Scott Janssen whoop it up with Bungie.



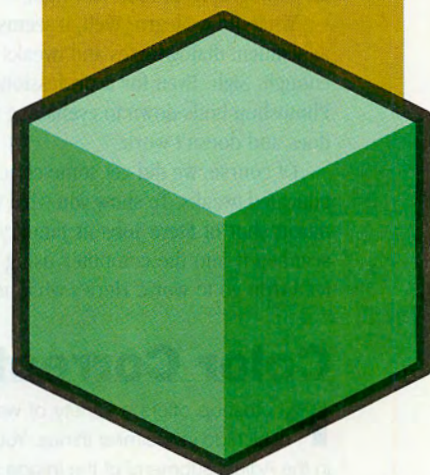
**TIM GONSALVES** spanked 'em all in Dark Vengeance and met MacSoft's Al Schilling.

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# how to

Learn to control colors like the pros and build Sherlock plug-ins like your kids.

## Correct Color with Photoshop

by Robert Capps and Aaron Lauer

**C**olor on a computer is a netherworld unto itself. There are gamma controls, color spaces, RGB and CMYK values, dot gain, and ICC profiles. Like most people, you probably steer far and wide of these terms, and simply want your pictures to look right. When confronted with a skewed Adobe Photoshop image, you just pull up random color adjustment dialog boxes and tweak away until things look, well...good enough.

To help you navigate through this light-and-spectrum soup, we hired professional photographer and *MacAddict* contributor Aaron Lauer to share with us just how he gets the color in digital photographs to look just right.

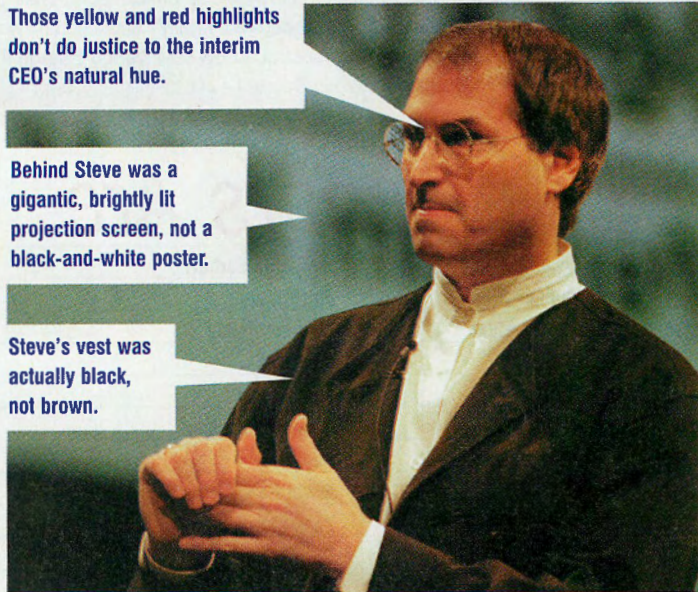
What did we learn? Well, it seems Aaron opens random color adjustment dialog boxes and tweaks away until things look good enough. Sigh. Even for a professional, getting colors correct in Photoshop boils down to eyeballing a picture and deciding what does and doesn't work.

Of course, we did get some concrete ideas to help you make educated tweaks. To show you what we learned, we took a photo Aaron shot of Steve Jobs at January's Macworld Expo keynote, scanned it into the computer using a 35mm slide scanner, and let Aaron go to work. Here's what he did.

Those yellow and red highlights don't do justice to the interim CEO's natural hue.

Behind Steve was a gigantic, brightly lit projection screen, not a black-and-white poster.

Steve's vest was actually black, not brown.



**WHAT'S WRONG WITH STEVE?** Our scan of this Macworld Expo keynote action shot took its toll on blacks and skin tones.

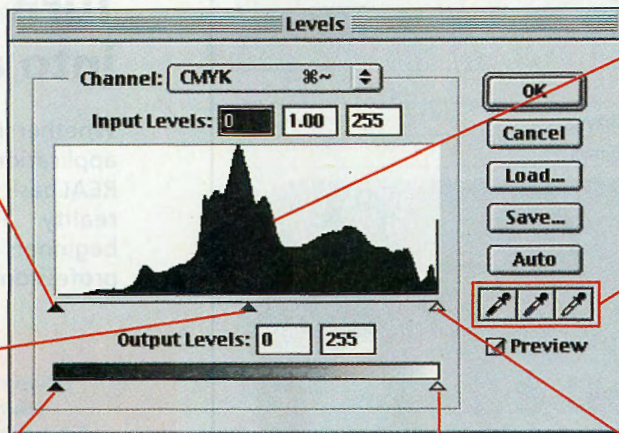
## Color Correction Controls

**P**hotoshop offers a variety of ways to adjust color, many of which do very similar things. You can find all of these options in the Adjust submenu of the Image menu. Here are a few of the more useful color controls and what they do.

**Shadow slider:** Pixels to the left of this point turn pure black. Moving it toward the center makes darks darker, increasing the contrast.

**Midtone slider:** Adjusts the midtone of an image. Pixels to the right of this point will be light, while pixels to the left of this point will be dark.

**Output Shadow slider:** Moving this triangle toward the center lightens the dark areas of an image, decreasing contrast.



**Output Highlight slider:** Moving this triangle toward the center darkens the light areas of an image, decreasing contrast.

**Histogram:** The Levels dialog box offers a histogram telling you how pixels are distributed in an image. It shows bright pixels (highlights) toward the right side of the histogram and dark pixels (shadows) toward the left. The gray midtone slider triangle at the bottom of the histogram indicates the middle of this range.

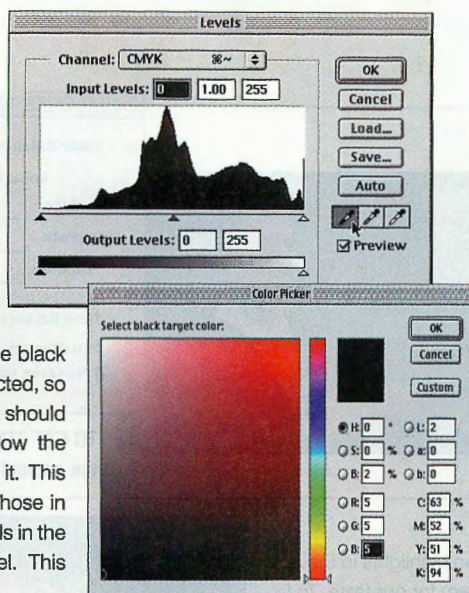
**Eyedroppers:** These set your white, black, and midtone points. For example, to set your white point, double-click the white eyedropper tool, set your white values in the Color Picker, then click on the part of the image you want to be white to set it.

**Highlight slider:** Pixels to the right of this point turn pure white. Sliding this triangle toward the center makes light areas lighter, increasing the contrast.



# 1 Set the Black Point

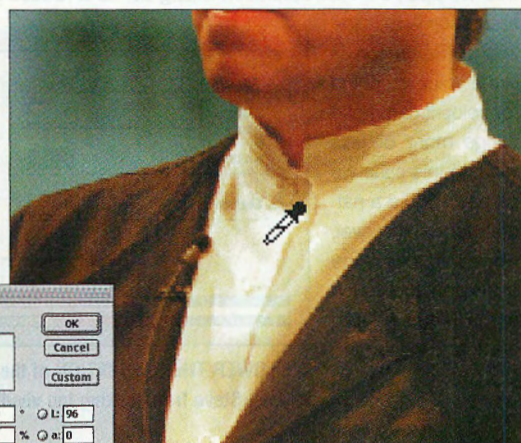
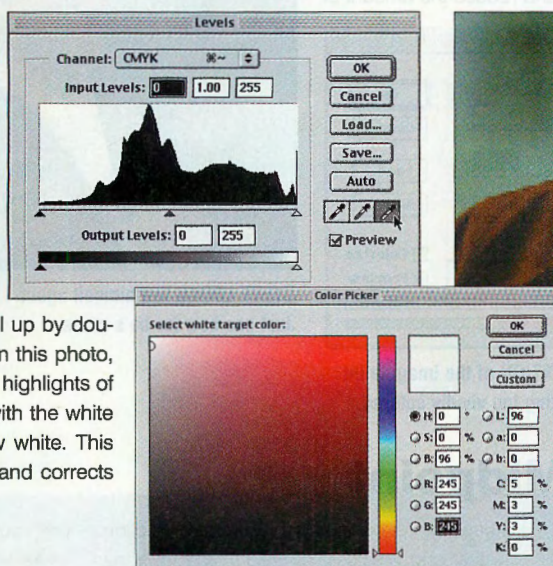
Starting with this RGB photo of Steve (we work in RGB because it is the natural color space of our monitor; if it needs to be in CMYK for high-end printing, we convert it later), we first want to set our black point. We open the Levels dialog box (the Curves dialog box will work for this as well), and double-click the black eyedropper to open the Color Picker dialog box. We enter a value of 5 into the R, G, and B boxes for a black just short of absolute black, and then click OK. The black eyedropper in the Levels dialog box is still selected, so we move the cursor to a part of the image that should be pure black (in this case, the section below the screen to the left of Steve's hand) and click it. This changes the pixel we select to the black we chose in the Color Picker, and changes all the other pixels in the image so they correspond to this new pixel. This adjusts both contrast and color for dark areas.



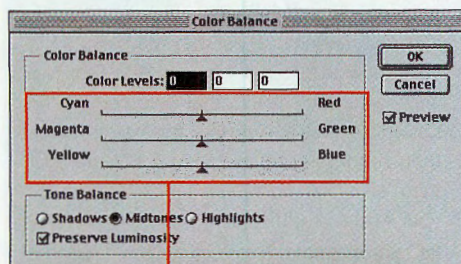
**THE BLACK EYEDROPPER TOOL** in both the Levels and Curves dialog boxes allows us to set our black point. Here we set the RGB values to 5 instead of 0, because values of 0 would put out too much ink if we ever wanted to print the image.

# 2 Set the White Point

Next we want to set the white point. To do this we repeat the steps for setting the black point, using the white eyedropper tool instead of the black one. Absolute white in the RGB scale is 255 for each color field. As with black, though, we don't want an absolute white because it won't look good in print. Instead we opt for values of 245 in the Color Picker, which we call up by double-clicking the white eyedropper tool. In this photo, the only pure white point is in one of the highlights of Steve's white shirt. We click this point with the white eyedropper cursor to assign it our new white. This adjusts all the other pixels accordingly and corrects both color and contrast for light areas.



**TO SET THE WHITE POINT** on Steve's shirt, we double-click the white eyedropper and assign values of 245 in the R, G, and B boxes.



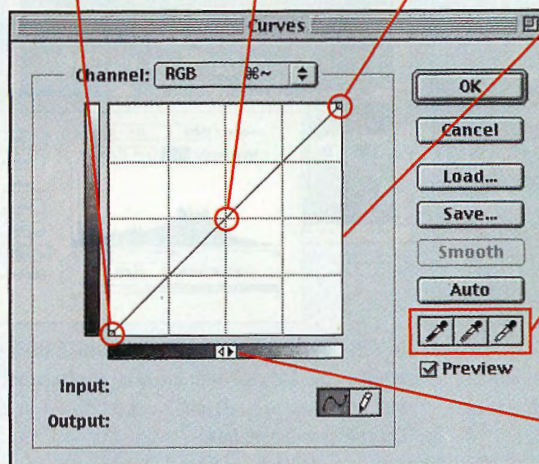
**Color sliders:** The key thing to remember about color balance is that as you increase a color, the amount of the color on the opposite end of the scale decreases. For example, to reduce cyan in your image, you move the adjustment slider more toward Red.

**Shadow point:** Adjusts the blacks or shadows of an image.

**Midtone point:** Adjusts the midpoint or grays of an image.

**Highlight point:** Adjusts the whites or highlights of an image.

**Graph:** The Curves graph represents highlights, midtones, and shadows in a more complex way than Levels does. The horizontal axis represents the input levels. Adjusting points along this axis lightens or darkens the image and increases contrast. The vertical axis represents the output levels. Adjusting points along this axis also lightens or darkens the image, but decreases contrast.



**Eyedroppers:** These eyedroppers work the same way as the eyedropper tools in the Levels dialog box, allowing you to set your white, black, and midtone points.

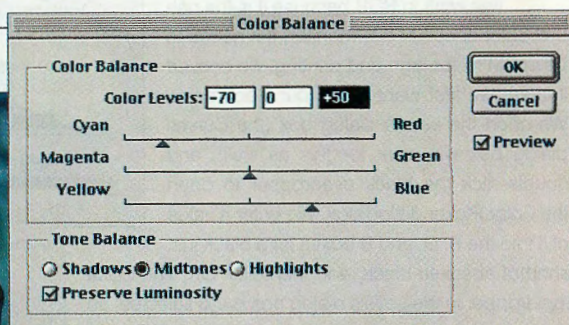
**Double arrow:** This toggle reverses the curve, putting highlights in the bottom-left corner and shadows in the top-right corner.



## how to

### 3 Adjust the Color Balance

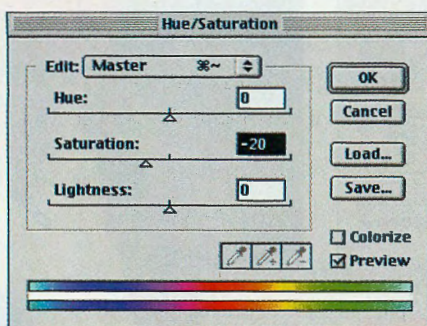
Because we don't have a predetermined color to act as a midpoint, we have to go into the Color Balance dialog box to finish repairing this image. Looking at the highlights in Steve's skin, it's clear that there is too much yellow. To fix this, we simply increase the amount of blue, which decreases the amount of yellow. Because Steve's skin also appears a little too red, we likewise increase the amount of cyan.



**TO GET STEVE'S SKIN** looking right, we need to decrease the amount of red and yellow.

### 4 Adjust the Saturation

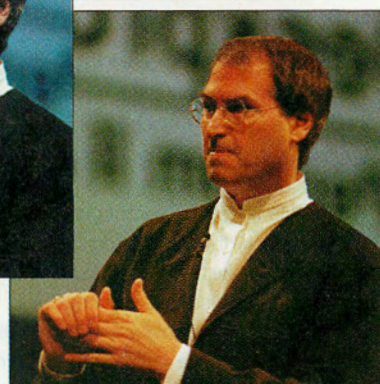
Our image is almost done, but some of the highlights in Steve's face still have a little too much color in them for our taste. To fix this, we open the Hue/Saturation dialog box and reduce the amount of saturation in the image. Saturation is like a volume control for color. It can make things more or less vivid. In this case we can give Steve a natural tone. However, we can't lower the saturation too much or the image will turn black and white.



**WE LOWER THE SATURATION** of the image a bit to keep Steve from looking too vividly colored.



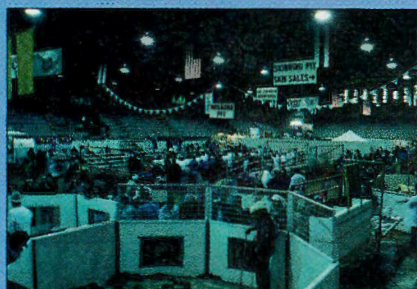
**STEVE LOOKS like himself again.** Just see how far he's come.



**COMPARE THAT** with the original, which cast Steve in a jaundiced light.

## When to Set the Midpoint

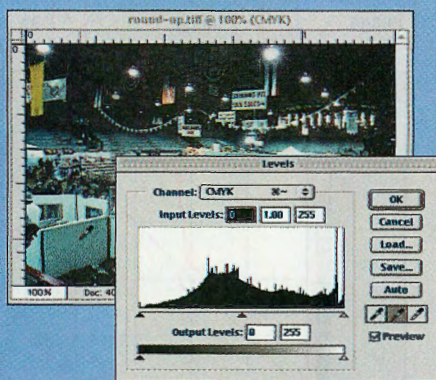
Setting a midtone point adjusts the image's overall contrast and color, just as setting the white and black points adjusts the contrast and color of the highlights and shadows, respectively. If we set a middle gray in addition to the black and white points, Photoshop will have all the information it needs to correct the entire image. However, our picture of Steve has neither a middle gray color nor a specific target color—some part of the image with a known color, which we could assign as a midpoint.



**WE KNOW THAT THE LEFTMOST WALL** of the closest snake pit (yup, those are rattlesnakes) is supposed to be middle gray.

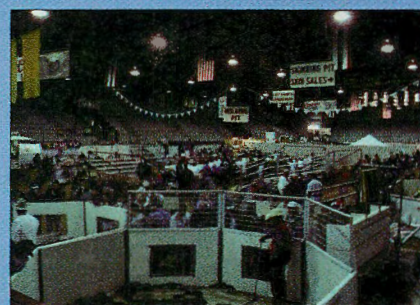
Otherwise, we could finish our color correction quickly and precisely by setting the midtone color point. To demonstrate how this works, we performed such an adjustment with a photo that does have a gray in it.

To set the midtone point, open the Levels or Curves dialog box and repeat the eyedrop-



**AFTER SETTING OUR BLACK AND WHITE POINTS**, we click on that wall with the gray eyedropper tool, then assign R, G, and B values of 127 in the Color Picker dialog box.

per routine as we did to set our black and white points. If you're lucky enough to have a perfectly middle gray in your image, you can set the R, G, and B values of your midpoint to 127. If you don't luck out with such a gray, but you know another color—say, the red in a shirt—you can select a matching color in the color field and assign that color to the midtone eyedropper. Either way, if you get that third point set right, you'll instantly correct your whole image.



**WE HAVE NOW RID THE IMAGE** of its annoying color cast.



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# how to

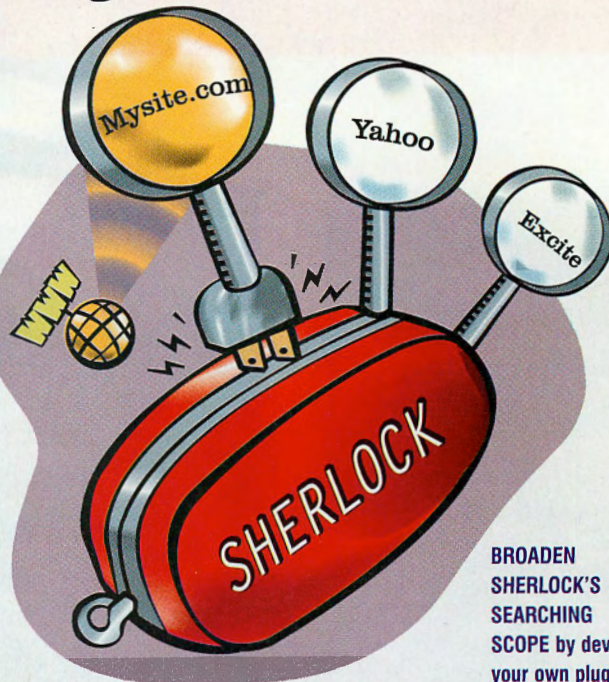
## Make a Sherlock Plug-In

by Mark Simmons

how to  
development

Apple's much-vaunted Sherlock search utility, whose Internet-searching capabilities the company has billed as the headlining feature of Mac OS 8.5, uses a nifty extensible architecture that allows you to add new search sites just by dropping a plug-in file onto your System Folder. In addition to the dozen-plus search site plug-ins that Apple provides, you can select from hundreds of user-crafted options at Sherlock plug-in archives such as Apple-Donuts (<http://www.apple-donuts.com/sherlocksearch>). But even after you've added Yahoo, Infoseek, Amazon, and Apple to your search site roster, you may find that no plug-in is available for your favorite Web site or online database.

Here's how to take matters into your own hands by drawing up your own Sherlock plug-in. We've already created a Sherlock search site plug-in for the MacAddict site, so this time we'll build one for the EvangeList site (<http://www.evangelist.macaddict.com>). Since it's easier to crib from an existing plug-in as you write your own, feel free to use ours as a template.



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SCOPE** by devising  
your own plug-in.



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StuffIt Lite,  
and our  
EvangeList  
Sherlock  
plug-in on  
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site at  
[http://www  
.evangelist  
.macaddict  
.com](http://www.evangelist.macaddict.com).

### What You'll Need

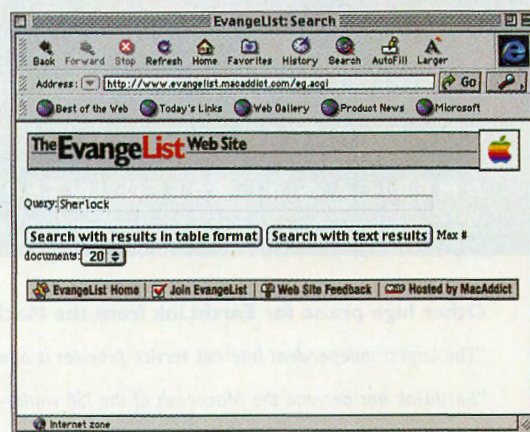
#### A Web site with a search engine

Since Sherlock's Search Internet feature merely provides an alternate front end for a Web site's existing search features, your target site must have its own search engine in place before you can build a Sherlock plug-in for it.

View	
Hide Navigation Toolbar	
Hide Location Toolbar	
Reload	⌘ R
Show Images	
Stop Loading	⌘ .
Page Source	
Page Info	
Page Services	
Encoding	

#### A Web browser

Using your Web browser's view source command, you'll disassemble the HTML form that queries the database, analyze the source code of the results page it returns, and fashion your plug-in code accordingly.



#### A text editor

You can write and edit Sherlock's Internet search site plug-ins with a text editor, preferably Bare Bones Software's BBEdit or its freeware spinoff, BBEdit Lite (on The Disc). These programs spare you the constant twiddling of type and creator codes that would be necessary if you used SimpleText.



BBEdit Lite 4.1

#### A resource editor

Even though a decent text editor lets you code your plug-in without changing its type and creator information, you'll still need to use Apple's ResEdit (on The Disc) or an equivalent utility to clean up your plug-in's resources before releasing it to the world.



ResEdit 2.1.3

#### A plug-in to swipe from

Besides the handy head start it provides in coding your creation, hacking an existing plug-in spares you the hassle of monkeying with your file's type and creator codes. All you need to do is edit the existing plug-in's code and clean up its resources before releasing it. And you can steal ours right off The Disc.



Apple.src



# Breaking the Code

The code that tells Sherlock how to query a site's search engine and interpret the results is stored in the plug-in's data fork, which you'll edit with BBEdit or BBEdit Lite (just drag and drop the plug-in onto BBEdit to open it). Apple's HTML-esque Internet Search Interface Language consists of a `<search>` tag that specifies the plug-in's characteristics, a

string of `<input>` tags that supply parameters the site's search engine requires, and an `<interpret>` tag telling Sherlock how to decipher the text links, ad banners, and relevance-ranking data buried in the site's results page. You can also insert comments and copyright information by prefacing the text with a pound sign (`#`).

## The `<search>` Tag

First the `<search>` tag specifies the name of the search service and provides a brief description of the plug-in. The optional `update` and `updateCheckDays` attributes tell Sherlock where it will find updated versions of the plug-in and how often it should check for new updates (the default is 30 days).

The `<search>` tag also specifies the search engine's URL and the method that Sherlock should use to send your query. To obtain this data, we must dissect the HTML source code of an existing search page. Here, let's use our Web browser's View Source command to peek at the Evangelist site's search page. We can lift our plug-in's action and method attributes from the page's `<form>` tag. To make it a Sherlock attribute, we add the HTML action attribute `eg.acgi` to the full URL of the search page, resulting in `http://www.evangelist.macaddict.com/eg.acgi`.

## The `<input>` Tags

Figuring out the necessary `<input>` parameters likewise requires detailed analysis of the Web site's search page. These tags specify the text you're looking for and the other parameters the search engine uses. You can figure out most of them by examining the HTML code of the site's search page, keeping an eye out for `<input>` and `<select>` tags.

In the case of the Evangelist site, we find that the search text goes into a form field called `Query_netscape`. A control called `num_hits_to_show` sets the number of results, and you submit the query by clicking one of two search buttons. We opt for the fancier table results by clicking the Netscape1.1 button, which submits the value *Search with results in table format*. When we turn these parameters into `<input>` tags for our Sherlock plug-in, we assign the `Query_netscape` field the special value *user*—meaning it contains the search text that the Sherlock user enters.

AT LEFT IS THE SOURCE CODE for the Evangelist Web site's search page. We need to steal a few things from this code to get it working. You can access a site's source code by opening the page in your Web browser and choosing Page Source from the View menu in Netscape Navigator or Source from the View menu in Internet Explorer.

```
HTML: Evangelist: Search
<HTML>
<HEAD>
<TITLE>Evangelist: Search</TITLE>
</HEAD>
<BODY BGCOLOR="#FFFFFF">
<CENTER><A HREF="/" TARGET="_top"><IMG SRC="/images/evalogo.gif" WIDTH=477 HEIGHT=40 BORDER=0></A><BR><
<FORM method=POST action="eg.acgi"><h4></h4>
<p>Query:<INPUT TYPE="text" NAME="Query_netscape" SIZE="60" MAXLENGTH="60" VALUE=""></p>
<p><INPUT name="Netscape1.1" type="submit" value="Search with results in table format">
<INPUT name="TextOnlySearch" type="submit" value="Search with text results">
Max # documents:<SELECT NAME="num_hits_to_show"><OPTION>20<OPTION>50</SELECT>
</FORM>
<BASE TARGET="_top">
<CENTER><A HREF="/maps/evabar.map"><IMG SRC="/images/evabar.gif" ISMAP USEMAP="#evabar" WIDTH=477 HEIGH
<MAP NAME="evabar">
<AREA SHAPE=RECT COORDS="0,0,113,19" HREF="http://www.evangelist.macaddict.com/">
<AREA SHAPE=RECT COORDS="115,0,219,19" HREF="http://www.solutions.apple.com/ListAdmin/">
<AREA SHAPE=RECT COORDS="221,0,339,19" HREF="mailto:evangelist@apple.com">
<AREA SHAPE=RECT COORDS="341,0,476,19" HREF="http://www.macaddict.com/">
<AREA SHAPE=DEFAULT HREF="http://www.evangelist.macaddict.com/">
</MAP>
</BODY>
</HTML>
```

```
Evangelist.src
Last Saved: 12/7/98 at 3:53:01 PM
Kerberos:Desktop Folder:Pr...:Evangelist.src.05

#
# Evangelist Search Plugin for Sherlock, Mac OS 8.5
#

<search
name = "Evangelist"
action = "http://www.evangelist.macaddict.com/eg.acgi"
update = "http://www.evangelist.macaddict.com/sherlockplugin.src.hqx"
updateCheckDays = 3
description = "Searches the Evangelist web site."
method = post
>

<input name = "Query_netscape" user>
<input name = "Netscape1.1" value = "Search with results in table format">
<input name = "num_hits_to_show" value = "50">

<interpret
resultListStart = "<TH align=left>More</TH></TR>"
resultListEnd = "</TABLE>"

resultItemStart = "src="0.GIF"></TD><TD>"
resultItemEnd = "<BR>"

bannerStart = "<CENTER>"
bannerEnd = "<BR></CENTER>"
>
</search>
```

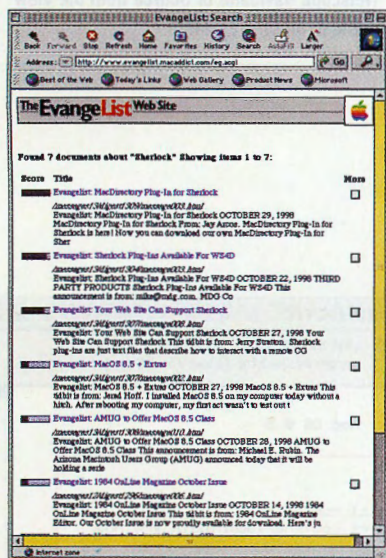
STEAL OUR PLUG-IN source code and use it as a template for your own plug-in. Just change the specifics to match the page for which you're creating it, and you're ready to rock. You'll find our plug-in on The Disc!



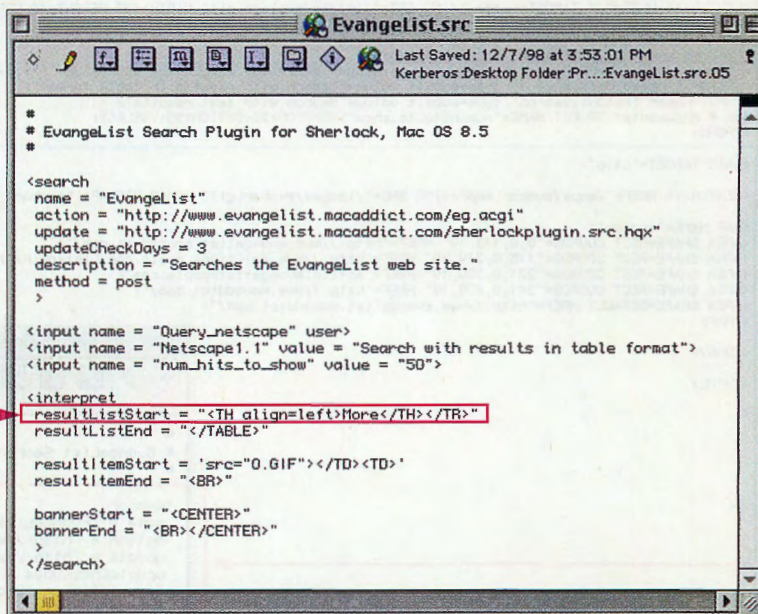
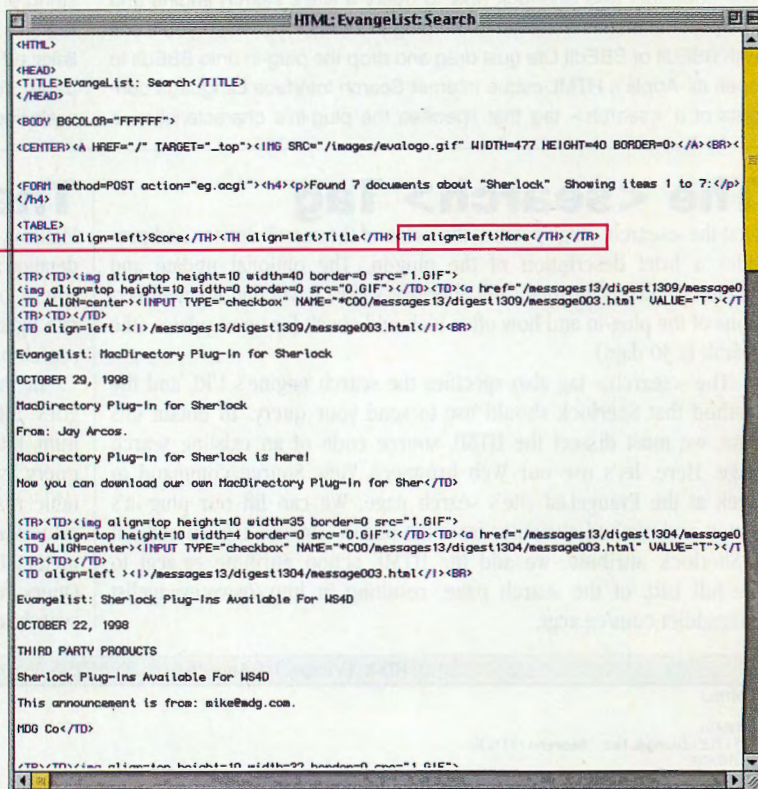
## The <interpret> Tag

To write the <interpret> tag, we must analyze the results page that the Web site's search engine returns. Perform a search using the site's search page, then use your browser's view source command to pick out HTML patterns that will help Sherlock digest the results. Your plug-in should specify where the list of results begins and ends, and provide signposts for the start and end of each result item. Choosing these patterns is more an art than a science—our code reflects the starting and stopping points we chose after scrutinizing the HTML source of our Evangelist results page. Note that you can use single quotation marks around text that includes double quote marks to make sure they appear.

Apple also gave Sherlock the ability to display ad banners in its results window. Sherlock can either pick the banner out of the results page using the bannerStart and bannerEnd attributes in the <interpret> tag, or find it via the bannerImage and bannerLink attributes in the <search> tag. The Evangelist results page doesn't have an ad banner—what an oversight! We use the space to display the site's logo, rather than simply leaving it blank.



THIS IS HOW the Evangelist site displays search results. You have to look at the code for the results page to figure out what you'll need to include in your plug-in's <interpret> tag.



AT TOP IS THE SOURCE CODE for the Evangelist search results page. Below is our plug-in code once again. Here we pick out an HTML pattern for our resultListStart attribute; one down, five to go.

## Staying Relevant

Sherlock plug-ins can also display results ranked by relevance. The search engine must provide this ranking, and the ranking must appear in a form that allows Sherlock to parse it from the results page. The Evangelist site presents the relevancy ranking information as an image, so it's inaccessible to Sherlock. If your target site provides a

relevancy percentage as part of each result item, you can pick this number out of the result-item text by specifying the relevanceStart and relevanceEnd attributes as part of your <interpret> tag. Many of Apple's search site plug-ins use this relevancy-ranking feature; you can get some idea of how it works by inspecting their code.



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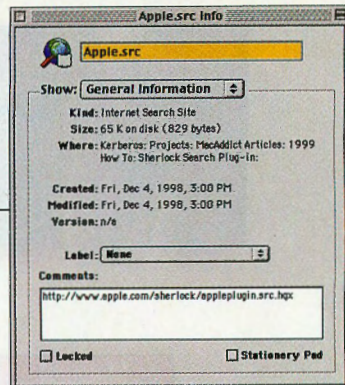
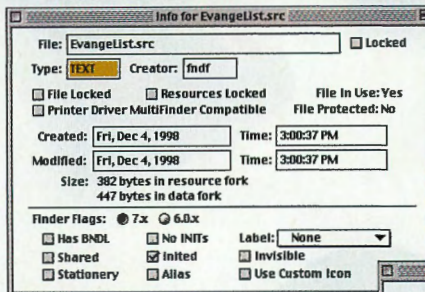
# how to

[continued from page 74]

## Setting Your Plug-in Loose

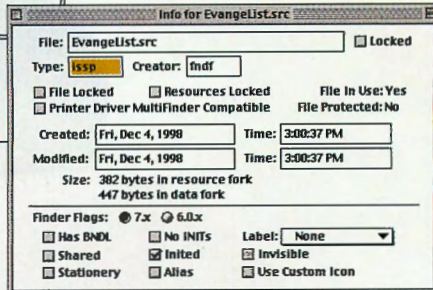
how to

**1** When you think your Sherlock plug-in is ready to rumble, it's time to test it out on your Mac. First, do a Get Info on the plug-in and make sure the Kind field says it's an Internet Search Site. If not, you'll need to give it the right type and creator codes. Use ResEdit or a similar information-editing utility to change the plug-in's creator code to fndf and its file type to issp before using it with Sherlock.



CHECK OUT THE KIND FIELD before taking your plug-in for a test spin.

IF RESEDIT TWEAKING is necessary, just change this...



...to this.

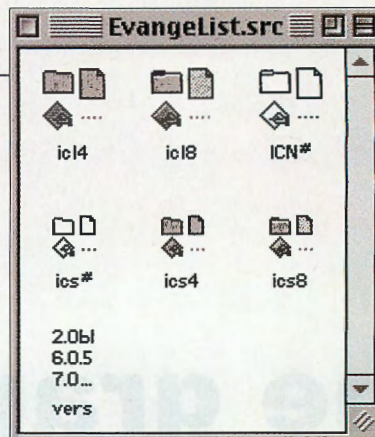


MAC OS 8.5 KNOWS where those plug-ins go. All you need to do is drag and drop.

**2** Now put the plug-in you've created into the Internet Search Sites folder inside your System Folder. (Just drag it onto the System Folder to autoroute it to its destination.) Then launch Sherlock. (Note that new plug-ins won't load if Sherlock is already running, so close it and relaunch it if you need to.) Almost inevitably you'll discover new and exciting glitches in your code, so be prepared to go a few rounds of testing and debugging.

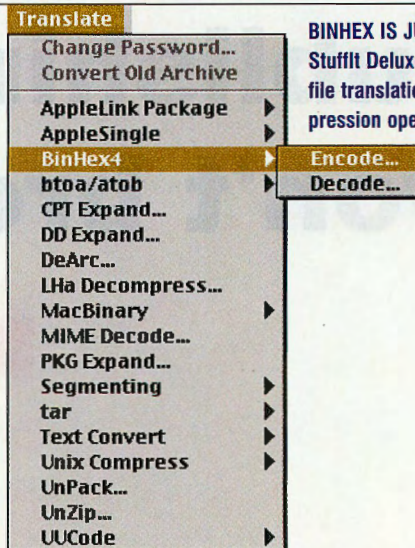
**3** When you've perfected your code, be sure to delete all stray resources from your plug-in (yes, it's time to use ResEdit again). Many otherwise reputable plug-ins contain vestigial resources, which are at best harmless and at worst outright troublesome. Purge all resources except custom icon (icl4, icl8, ICN#, ics#, ics4, ics8, and/or icns) and version (vers) resources that you inserted yourself.

The MacAddict and Evangelist plug-ins contain version resources identifying them as our work, so you should change or delete them if you're using our plug-ins as templates. When you first use your plug-in with Sherlock, it'll also get a DATE resource; if you decide to package your plug-in for distribution, be sure to delete this resource to prevent possible version-control problems.



THESE ARE ALL THE RESOURCES you'll need. Make sure the vers resource credits you, not us!

**4** Now it's time to share your search site plug-in with the world. To make Sherlock's self-updating feature work, you'll need to post your plug-in as a telecom-safe BinHex file. (Be sure not to use any form of compression, however, as Sherlock doesn't know how to decompress files.) You can convert your file to BinHex format with Aladdin Systems' Stuffit Lite or Stuffit Deluxe, or you can use a dedicated BinHex utility such as AutoBin.



BINHEX IS JUST ONE of Stuffit Deluxe's manifold file translation and compression operations.

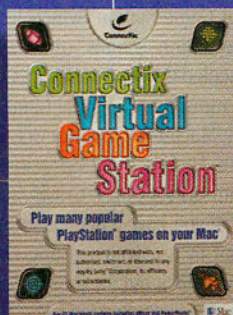
## Search Your Feelings

If you've crafted a Sherlock plug-in for use with someone else's Web site, we suggest you drop a courtesy note to the Webmaster before distributing your plug-in to other users. Although Sherlock goes to great lengths to make sure searched sites don't miss out on traffic or ad revenue, not all Web site operators are aware of this, and they may take umbrage at perceived tampering with their search engines. If you ask permission before passing along your plug-in, not only will you avoid possible flak from the site owners, but they may even make your plug-in available for download from their site—giving Sherlock some extra publicity in the process.



# Time to Play!

# Play g a m e s



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*Submit technical queries or helpful tips directly via email ([askus@macaddict.com](mailto:askus@macaddict.com)) or c/o MacAddict, 150 North Hill Dr., Suite 40, Brisbane, CA 94005.*

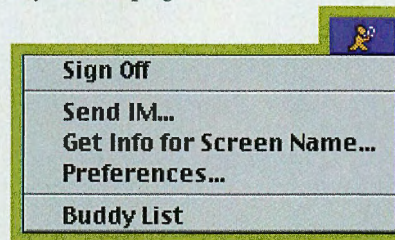


**FIND AOL INSTANT Messenger, QuickTime 3.0, Mac OS 8.5.1 Updater, Apple Disk Copy, and StuffIt Expander on The Disc.**

**Q** With Mac OS 8.1 comes a strange sort of application-advertisement that displays as an icon (a little figure carrying a flag) on the menu bar next to the Finder icon. Clicking it reveals a menu with options such as Sign On, Send IM, Get Info, and others. It appears to be an ad for America Online. How does one get rid of it? It seems indestructible.

**A** Sounds like somebody installed AOL Instant Messenger on your Mac. This is actually a pretty cool way of staying in touch with Mac and PC users equipped with any type of Internet connections, not just with America Online accounts. Basically, when you run AOL Instant Messenger, it logs you onto the Internet and registers your presence in a big database; anyone who previously added your account to a "buddies" list receives a notification that you're online. That person can send you a message that instantly appears in a window on your screen, not several minutes later in your email program's in-box.

tion that you're online. That person can send you a message that instantly appears in a window on your screen, not several minutes later in your email program's in-box.



**WHO'S YOUR BUDDY? AOL Instant Messenger places the little icon of a man carrying the AOL logo in the menu bar.**

But let's say you don't want to bother with any of this nonsense—you just want to get rid of AOL Instant Messenger. Here's how. Search your hard drive for files and folders starting with *AIM* or containing *Instant Messenger*; you should find all of the AOL Instant Messenger parts except the IdleTime extension, which resides in your System Folder. Drag these items to the Trash, then restart your Mac. This should rid the menu bar of the little man.

**Q** I have a PowerBook 1400c. I am debating whether to buy a PC-emulation program so that I can run Windows programs on the road. With a PC emulator, would I be able to use the PC cards that come with only Windows drivers? If so, do both VirtualPC and SoftWindows let me do this, or only one of these? Or can I get separate software for using PC cards with Windows drivers?

**A** Neither Connectix's VirtualPC (800-950-5880 or 650-571-5100, <http://www.connectix.com>) nor Insignia Solutions' SoftWindows (800-848-7677 or 510-360-3700, <http://www.insignia.com>) allows you to use PC cards with Windows-only drivers on your PowerBook. Both products, however, let you use Mac modem or Ethernet cards in the Windows environment.

**Q** Is there a way I can use a Sony PlayStation game controller with my Power Mac G3 minitower? Or is a similar controller available that's compatible with the Mac?

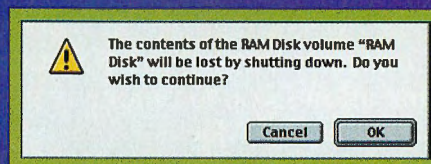
**A** With the introduction of Connectix's Virtual Game Station, which lets you play many PlayStation games on Macs with factory-installed G3 processors, this question couldn't be more timely. Virtual Game Station supports any Macintosh input device that's compatible with Apple's Input Sprockets, such as those from CH Products, Gravis, and ThrustMaster.

If you have a dedicated game console and want to use your existing controllers on the Mac, check out the \$49.95 JoyPort—formerly the ChoiceStick Mark V—from Kernel Productions (302-456-3026, <http://www.kernel.com>). This adapter comes in ADB and USB versions for simultaneously connecting Atari 2600, Nintendo 64, Sega Genesis, Sony PlayStation, and Wintel PC controllers to any Mac running System 7.1 or later. For serious multiplayer action the JoyPort supports multitap adapters for connecting up to four Genesis or PlayStation controllers. It comes with software preconfigured with settings for more than 150 Mac games, and you can create new sets by

[continued on page 80]

## The Quirks of Quitting

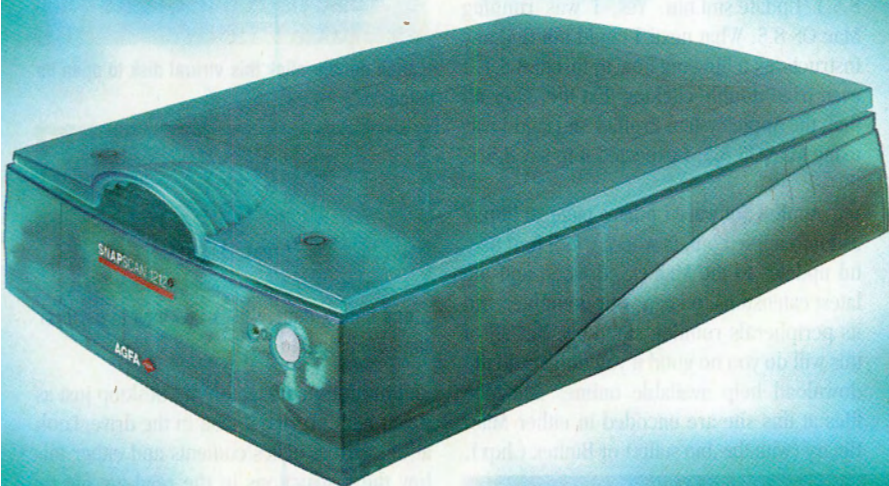
In the February installment of this fine column, I suggested that a reader looking for an easy way to quit multiple active programs in one step get a copy of the \$5 shareware control strip module called Quit CSM (<http://www.k-inet.com/mabasoft>). While this remains my preferred method of quitting all open programs, several readers offered alternatives. Shareware programmer Michael F. Kamprath (<http://www.kamprath.net/claireware>) wrote that his \$10 Program Switcher control panel not only allows application switching, but also features a Quit All But Finder hot key and a Quit All But Finder And Current hot key. Apparently *MacAddict* subscribers are a frugal bunch, because several of you suggested a solution that doesn't cost a penny: From the Memory control panel, create a RAM disk and use it to store the contents of your browser's cache. Then when you choose Shut Down from the Finder's Special menu, all the open applications quit automatically and an alert box appears, warning that you will lose the contents of the RAM disk by shutting down. By clicking Cancel, you stop the shutdown procedure in its tracks so that nothing is left running but the Finder.



**TAKING ADVANTAGE OF THE FINDER'S thoughtfulness, you can use the RAM disk data-loss warning to halt the shutdown process after quitting all applications.**



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assigning a button on an attached joystick to do any mouse or keyboard activity imaginable.

**Q** While reading about Windows 98, I was amazed to learn that Microsoft has made it possible to connect two modems to one computer. Can this be done on the Mac?

**A** Where do you think Microsoft stole the idea? Most Macs sport two ports on the back panel. The icons and documentation identify them as modem and printer ports, but they're really just serial ports, and you can use either for any Mac-compatible serial device. So to connect two modems to a Mac, you just plug one into the "modem" port and the other into the "printer" port, and attach each to its own analog phone line. If you correctly configure software that adheres to Apple's Communications Toolbox standard, you can have two simultaneous modem connections, letting you log onto AOL with one modem while sending faxes with the other. Neat, huh?

But why stop at just two modems? The only real limitation is the number of serial ports, and you can add more with a device such as KeySpan's SX Serial Card (510-222-0131, <http://www.keyspan.com>). It plugs into the PCI bus and adds either two or four serial ports (\$199 or \$299, respectively, depending on model) that are functionally identical to the Mac's original serial ports.

**Q** Any idea what freeware or shareware program out there allows a QuickTime movie to play at startup? Thanks a million!

**A** You don't need additional software; the Mac OS can handle this process all by itself,

provided QuickTime is properly installed. Just name your QuickTime movie or an alias *Startup Movie* and drop it in the root level of the System Folder. Whenever you start your Mac, Startup Movie plays in a small window in the middle of the main monitor immediately after the QuickTime extension loads. Once the movie finishes playing, the remaining extensions and control panels load normally, but the movie window doesn't go away until the Finder appears. Although there are no standard QuickTime tools in the window (such as pause, rewind, and volume control), you can abort the playing of the movie by pressing any key. If the movie plays without sound, it could indicate a lack of sufficient memory, in which case upgrading to QuickTime 2.0 or later should solve the problem.

**Q** I've often heard that Apple provides free system software updates. Wonderful! But what do you do with them after you get them? I went to the Apple Web site, where I downloaded an update file called Mac OS 8.5.1 Update.smi.bin. Yes, I was running Mac OS 8.5. What next? I could not find any instructions telling me how to install 8.5.1. I even tried double-clicking that file. After all that, the Apple System Profiler still said I was using Mac OS 8.5; I expected it to say 8.5.1.

**A** Apple's Software Updates page, at <http://asu.info.apple.com>, is where you'll find useful updates to the Mac OS, drivers, and the latest extensions to keep your computer and its peripherals running smoothly. But all of this will do you no good if you don't read the download help available online. The Mac files at this site are encoded in either MacBinary (with the .bin suffix) or Binhex (.hqx).

Once they're downloaded, you must decode the files. Most browsers and FTP clients handle this automatically, but if they don't, you can do so manually by dropping the file onto Aladdin Systems' freeware Stuffit Expander (<http://www.aladdinsys.com>).

After downloading and decoding, the files will be either some sort of Disk Copy image or a self-extracting archive. If it's an image file, double-clicking will launch Apple's free Disk Copy utility (provided it's on your hard drive; if not, get it off The Disc)



**DOUBLE-CLICK** this image file to mount a virtual disk...



...then double-click this virtual disk to open its window...



...and finally, double-click this icon to perform the actual update.

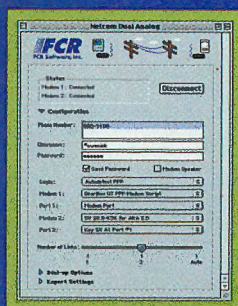
and mount the image on the desktop just as if you had inserted a disk in the drive. Look at this virtual disk's contents and either follow the instructions in the read-me file or double-click any installer utility you see and follow the onscreen prompts. If the file you downloaded turns out to be a self-extracting archive, double-click to decompress it, then look for the read-me file or installer.

Based on what you've told me, I can ascertain that you downloaded the MacBinary version of the Mac OS 8.5.1 updater. After decoding it with Stuffit Expander, you should end up with a Disk Copy self-mounting image (with an .smi suffix). Double-click this image to mount the disk called Mac OS 8.5.1 Update, double-click the disk to reveal the installer, and then double-click the installer to begin the update. When you're done, your Mac will be running OS 8.5.1. Or you can just get the updater from the MacAddict Disc.

Owen W. Linzmayer is the author of *Apple Confidential: The Real Story of Apple Computer, Inc.*

## Two Modems for Twice the Speed

If you think connecting multiple modems to your Mac is cool, wait until you hear about LinkUPPP Turbo 3.0 from FCR Software (617-494-1300, <http://www.fcr.com>). This \$59.95 software package is a multilink PPP client for the Mac OS. LinkUPPP Turbo supports both AppleTalk (Open Transport and Classic Networking) and TCP/IP over a PPP connection via the industry-standard ATCP and IPCP protocols. Yeah, it sounds like a bunch of mumbo-jumbo to me, too, but essentially it allows you to combine the power of two modems to achieve access speeds of up to 112 Kbps (when using 56-Kbps modems). The modems don't have to be the same make, model, or speed. However, the remote access server you're calling must support Multilink PPP on asynchronous (non-ISDN) interfaces, and you must configure your account for dual analog connections (my ISP, Netcom, charges an additional \$10 per month for this option). And of course, you'll need two phone lines. Once you've got everything properly configured, you can surf the Web, retrieve email, and download files up to twice as fast as before. You can set LinkUPPP Turbo to use both modems all the time, or to resort automatically to the second modem only when you max out the first connection. It even reestablishes links on the fly if a connection breaks. Like I said, this is one slick program.



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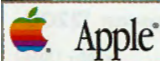
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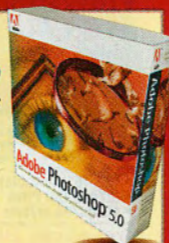


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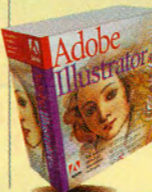
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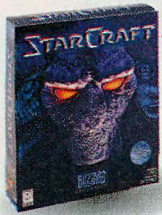
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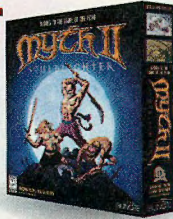
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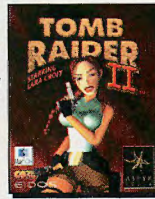
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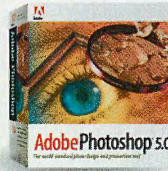
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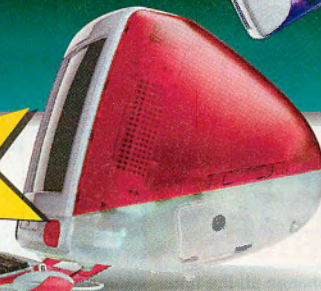
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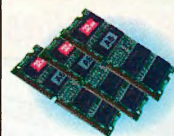
**macally**  
**iKey**  
**\$39<sup>95</sup>**  
M450 1024

**USB ZIP DRIVE**  
**\$149<sup>95</sup>**  
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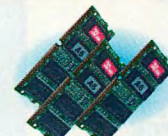
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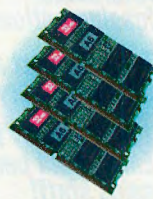
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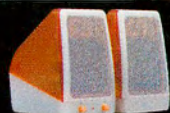
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95233	Jaz 2GB SCSI Int Drive	\$349.95
95234	Jaz 2GB SCSI Ext Drive	\$349.95
43360	Jaz Card PCMCIA Fax SCSI 2	\$124.95
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60339	Teleport 56k v.90 ext Fax/Modem for Mac	\$125.98
60313	3Com/USR 56k v.90 D/F for Mac	\$97.98†
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84147	ViewSonic G810 21" Color Monitor	\$949.98

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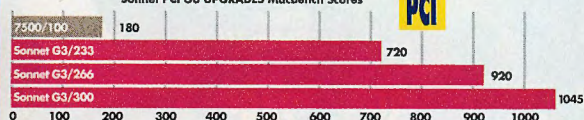


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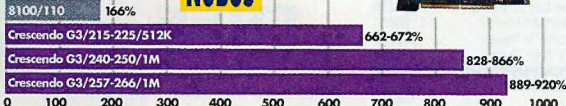
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1400C/133	16/1G/CD	1199*
1400CS/133	16/1G/CD	999*
1400CS/117	12/750	899*
5300CS/100	16/750	599*

### NEW G3 POWERBOOK!

Starting at  
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G3/233	32/2G/20X/12.1STN	1499*
G3/233	32/2G/20X/12.1STN/56K	1599*
G3/233	32/2G/20X/12.1TFT/56K	1899
G3/233	32/2G/20X/14.1TFT/FLOP	1999
G3/233	32/2G/20X/14.1TFT/56K	2099
G3/250	32/4G/20X/13.3TFT/56K	1999
G3/266	64/4G/20X/14.1TFT/56K	2499
G3/300	64/8G/20X/14.1TFT/56K	2999
G3/300	64/8G/DVD/14.1TFT/56K	3299

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Starting at  
**\$199**



Sony 110GS/210GS	199/329
Sony 200PS/220GS	449/399
Sony 400PS/420GS	649/569
Sony 520GS 21"	879
Sony 500PS 21"	999
Sony CPD-L150	1279
SONY MAVICA FD51/FD81/FD91	449/729/849



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Q41 14"	139
Q51/Q53 15"	159/169
Q71/Q100	249/569
E641/E655	139/189
V73/V75 17"	319/379
V95/V115	499/849
GS771/G773	329/379
PS790/G790	549/499
PT775/PT771	539/499
G810/P810	899/999
PT813/P815	1099/1099
29GA	1649
VIEWSONIC VWPAN VPA138	789
VIEWSONIC VWPAN VPA 145	799
VIEWSONIC VWPAN VPA 150	999
PROJECTOR 800	CALL

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RADIUS 15"	179
RADIUS 17"/19"	339/529
RADIUS 21"	CALL



### NEC

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**\$179**

NEC A500 15"	179
NEC A700 17"	329
NEC A900 19"	529
NEC E700/E900 17"/19"	479/549
NEC E1100	899
NEC P1250	999

### RASTEROPS

Superscan MC-6215	369
Superscan MC-6415	449
Superscan MC-7515	599
Superscan MC-813	1249
Superscan MC-8115	949

### EPSON®

Starting at  
**\$139**



STYLUS COLOR 700/850	229/299
STYLUS COLOR 740/800	229/299
STYLUS COLOR Photo-EX	449
STYLUS PRO-XL	249*
STYLUS COLOR 1520/3000	449/1099
EXPRESSION/636/PERFECTION	279
EXPRESSION/636/ART-2	479
EXPRESSION/636/PRO-2	699



### HEWLETT PACKARD

4500N/4500DN	CALL
4000N/4000TN	1149*/1249*
6MP	699*
4MV	999

Starting at  
**\$99**



Astra 610S-Photo Deluxe	99
Astra 1220/1220U	149/139
Astra 1200/2400	139/329

POWERLOOK II	699
POWERLOOK IIISE	1849



### Tektronix

PHASER 350 COLOR LASER	CALL
PHASER 380	CALL
PHASER 450	CALL
PHASER 480X	CALL
PHASER 560 COLOR LASER	CALL
LASER 600WIDE FORMAT	CALL
MaxPowr Citation 233MHz	429

### MINOLTA

DIMAGE V	495
DIMAGE SCAN	CALL
QUICKSCAN 35	CALL



Starting at  
**\$119**

SNAPSCAN 1212U	119
SNAPSCAN 1236S	229
SNAPSCAN 1236 ARTLINE	279
DUOSCAN PRO	2399
DUOSCAN T1200	639
E-PHOTO 1680/780/1280	799/349/549



GCC ELITE XL-20/1600	1649
GCC ELITE XL-20/800	1849
GCC ELITE XL-6080LC	1499
GCC ELITE XL-808	2699
GCC ELITE XL-1208/Plate Maker	2399/3799



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JADE	379
SAPHIR	1049
SAPHIR ULTRA	2999
OPAL	CALL
OPAL ULTRA	CALL

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Starting at  
**\$129**



INTUOS 4 X 5	129
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INTUOS 9 X 12	399
INTUOS 12 X 18	CALL

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ZIP CART 10 PACK	79
JAZ DRIVE 2 GIG	299
JAZ DRIVE 1 GIG	199*
JAZ CART 1 GIG	69
JAZ CART 2 GIG	79

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Global Village Plat 56K EXT	129
Global Village 28.8 PCMCIA	59
Global Village 28.8/ETHERNET PCMCIA	99
Global Village 56.6 PCMCIA	149
Global Village 56.6 ETH/PCM	189

### Seagate

Starting at  
**\$399**

Cheetah 18G SCSI/Wide	CALL
Cheetah 9.1G SCSI/Wide	CALL
Barracuda 18G SCSI/Wide	CALL
Barracuda 4.5G SCSI/Wide	CALL
Barracuda 9.1G SCSI/Wide	CALL
Elite 23G SCSI/Wide	CALL

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APPLE POWERMAC 132MHz	99
APPLE POWERMAC 150MHz	149
APPLE POWERMAC 200MHz	149
APPLE POWERMAC 233MHz	179

### Quantum

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ATLAS III 18.2G SCSI/WIDE	CALL
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EXTERNAL CASE	79

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I-MAC EXT FLOPPY	89
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PB G3 BATTERY	189
PB G3 AUTO ADAPT	79
3400/5300/190 Zip Drive	199
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3400 Battery	79

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MAXPOWER G3 400/200	1499
MAXPOWER G3 366/183	1199
MAXPOWER G3 333/166	899
MAXPOWER G3 300/200	649
MAXPOWER G3 300/150	499
MAXPOWER G3 266/133	429
NUPOWER G3 233/110 FOR PB 1400	569
NUPOWER G3 240/160 FOR PB 2400	899
NUPOWER G3 250/125 FOR PB 1400	679
NUPOWER G3 240/120 FOR PB 2400	679
VIEWPOWER PB-1400 16-BIT	229
BOOKENDS PB 1400/2400/5300	159/159/179

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### ULTRA SCSI

	Int	Ext
2111MB 5400rpm 512K FB32100S 3yr	\$205	\$265
3228MB 5400rpm 512K FB33200S 3yr	\$235	\$295
8455MB 5400rpm 512K FB38400S 3yr	\$349	\$409
9100MB 7200rpm 1024K XP309100S 5yr	\$429	\$489
18200MB 7200rpm 1024K XP318200S 5yr	\$749	\$809

### ULTRA WIDE SCSI

4550MB 7200rpm 512K VK304550W 5yr	\$249	\$339
9100MB 7200rpm 512K VK309100W 5yr	\$389	\$479

### ULTRA 2 SCSI

4550MB 7200rpm 512K VK304550LW 5yr	\$249	\$349
9100MB 7200rpm 512K VK309100LW 5yr	\$389	\$489
9100MB 7200rpm 1024K XP309100LW 5yr	\$429	\$529
18200MB 7200rpm 1024K XP318200LW 5yr	\$749	\$849

We also stock Ultra-2 drives with SCA connector

**Quantum Approved Audio Visual drives specifically tuned to meet demanding A/V apps.**

### ULTRA 2 SCSI A/V (Minimum sustained 10MB/sec)

4550MB 7200rpm 512K VK304550LV4 5yr	\$279	\$379
9100MB 7200rpm 512K VK309100LV4 5yr	\$419	\$519
18200MB 7200rpm 1024K XP318200LV4 5yr	\$779	\$879

**We are the #1 source for Quantum**

Capacity for the Extraordinary

### Ultra-2 Special

Step up to 80MB/sec Drive with Adaptec controller

9GB VK9MACI	\$780
External VK9MACX	\$900
18GB XP18MACI	\$1140
External XP18MACX	\$1260

**DLT** The professional's choice for backup. We will not be undersold on Quantum DLT Tape drives!

Native	Compressed	Internal	External (our case)	External (Quantum case)
15GB	30GB	\$769 DLT2000XT	\$869 DLT2000XTX	n/a
20GB	40GB	\$1849 DLT4000	\$1949 DLT4000X	\$2059 DLT4000QX
35GB	70GB	\$4589 DLT7000	\$4689 DLT7000X	\$4799 DLT7000QX

### DLT MEDIA SALE

	1-4	5-9	10-49	50+
DLTIII 10-20GB Media (DLT3)	\$38	\$37	\$35	\$33
DLTIIIXT 15-30GB Media (DLT3XT)	\$40.5	\$40	\$38	\$36
DLTIV 20-40GB Media (DLT4)	\$80	\$79	\$77	\$75

### DLT Cleaner

	1-4 (DLT CLEAN)	5-9	40
	\$40	\$38	\$36

## CD RECORDERS

Smart Storage Solutions CDR Drives Include:

- ✓ Toast Mastering Software
- ✓ 5 FREE disks
- ✓ Toll Free support



**Includes Toast & DirectCD Software!**  
 DirectCD from Adaptec now makes a CD Recorder as easy to use as a hard drive.

Compare our price and you will see we are the #1 source for CD Recorders!

**4x8 CDR \$259**



### CD RECORDABLE Includes 5 Free Recordable Disks!

	Internal	External
4x8 Panasonic mechanism, tray load, 1MB buffer	\$259	\$319
4x12 Teac mechanism, tray load, 1MB buffer	\$269	\$329
4x12 Plextor mechanism, caddy/tray load, 2MB buffer	\$379	\$439
8x20 tray load, 2MB buffer	\$389	\$449
8x20 Plextor mechanism, tray load, 4MB buffer	\$509	\$569

**PRICE BREAKTHRU**  
**CD REWRITABLE Includes 5 Free ReWritable Disks!**  
 4x4x16 Yamaha mechanism, tray load, 2MB buffer \$389 \$449

Fargo Signature CD Printer \$999	CD Duplicators Call for price.	CD Stomper label kit \$49	Toast retail package \$89	100 CDR-74 w/drive \$120	50 CD-RW w/ drive \$289
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Duo Master is one of the most innovative CD mastering solutions available. The solution provides a hard drive, Jaz or Syjet drive and CDR in one unit. Create your master on the hard drive, Jaz or Syjet cartridge drive and then master directly to the CD. This is the perfect CD mastering setup! Includes 5 free recordable CDs (5 CD-RWs with CD-RW drives) Add these prices to the internal prices above.

Quantum 2GB (DUO2GBM) \$270	Quantum 4GB (DUO4GBM) \$340
Jaz 2GB (DUO2GBJAZM) \$359	

**All-in-one CD Mastering**



## SCSI HARD DRIVES

### Seagate

	Internal	External
4.5GB 7200rpm 512K ST34520N 3yr	\$225	\$285
4.5GB 7200rpm 512K ST34573N 3yr	\$369	\$429
6.5GB 7200rpm 512K ST36530N 3yr	\$305	\$365
9.1GB 7200rpm 512K ST39140N 3yr	\$380	\$440
9.1GB 7200rpm 1024K ST39173N 5yr	\$405	\$465
18.2GB 7200rpm 1024K ST118273N 5yr	\$765	\$825

### ULTRA WIDE SCSI

4.5GB 7200rpm 512K ST34520W 3yr	\$225	\$315
4.5GB 7200rpm 512K ST34573W 3yr	\$369	\$459
6.5GB 7200rpm 512K ST36530W 3yr	\$305	\$395
9.1GB 7200rpm 512K ST39140W 3yr	\$380	\$470
9.1GB 7200rpm 1024K ST39173W 5yr	\$405	\$495
18.2GB 7200rpm 1024K ST118273W 5yr	\$765	\$855

### ULTRA 2 SCSI

4.5GB 7200rpm 1024K ST34573LW 5yr	\$369	\$479
4.5GB 10,000rpm 1024K ST34502LW 5yr	\$529	\$639
9.1GB 10,000rpm 1024K ST39102LW 5yr	\$639	\$749
9.1GB 10,000rpm 4096K ST39102LW4 5yr	\$739	\$849
9.1GB 10,000rpm 1024K ST39173LW 5yr	\$405	\$515
18.2GB 7200rpm 1024K ST118273LW 5yr	\$765	\$875
18.2GB 10,000rpm 1024K ST118202LW 5yr	\$1159	\$1269
18.2GB 10,000rpm 4096K ST118202LW4 5yr	\$1399	\$1509

### IBM

4.5GB 5400rpm 512K IBM34560N 5yr	\$255	\$315
9.1GB 7200rpm 512K IBM39130N 5yr	\$459	\$519
18.2GB 7200rpm 1024K IDGHS18Z 5yr	\$789	\$849
18.2GB 7200rpm 1024K IDGHS18Z 5yr	\$789	\$849
18.2GB 1" High 2MB IBM318350N 5yr	\$959	\$1019

### ULTRA WIDE SCSI

4.5GB 7200rpm 512K IBM34560W 5yr	\$239	\$329
9.1GB 7200rpm 512K IBM39130W 5yr	\$449	\$539
18.2GB 1" High 2MB IBM318350W 5yr	\$959	\$1049

### ULTRA-2 SCSI

9.1GB 7200rpm 512K IBM39130U2 5yr	\$459	\$569
9.1GB 10020rpm 4096K IDRV9U2 5yr	\$629	\$739
18.2GB 7200rpm 1024K IDGHS18U2 5yr	\$799	\$909
18.2GB 10020rpm 4096K IDRV9U2 5yr	\$1069	\$1179
36.4GB 7200rpm 4096K IDRV9U2 5yr	\$1599	\$1709

We stock all IBM drives, call for any model not listed.

**SCA Drive Enclosure - Perfect for RAID**  
 • Holds three 1" high SCA drives. • Drive modules are hot swappable. • Heavy duty construction and cooling. Enclosure with modules (SCA3CASE) \$329

## CD ROM DRIVES

	Internal	External
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24X - 6 disc changer	Pioneer DRM6324XM \$419	\$499
32X - 512K buffer	Plextor PX32TSM/XM \$119	\$179
36X - Slot load	Pioneer PRU706M/XM \$89	\$149
40X - tray load	Toshiba XM6401BM/XM \$99	\$159

## MISCELLANEOUS

### IOMEGA 2GB Jaz JAZ Media Sale

JAZZX	\$339
1GB qty 2-9 / 10+	\$79 / \$77
2GB qty 2-9 / 10+	\$87 / \$85

### ADAPTEC Controllers

PCI Wide Single Channel	A2940MUW \$259
PCI Wide Dual Channel	A3940MUW \$439
PCI FireWire + Wide SCSI	AHA8945 \$559
PCI Ultra 2	A2940MUW \$399

### ATTO Controllers

PCI Fibre Channel	ATTOPCFC \$769
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### E4 Cool DVD Kit

Complete kit for Mac G3 computers	DVDMAC \$199
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### DVD-RAM Kit

Complete ext kit w/ 1 disk 5.2GB rewritable DVDRAMAC	\$679
DVD RAM media #DVDRAMDISK 1-4 \$40 5-9 \$37 10+ \$35	

### Maxoptix Optical Drives

2.6GB TS-2600 \$1149	5.2GB T6-5200 \$1499
2.6GB media 2-4/5-9/10+ \$40/36/34	5.2GB media 2-4/5-9/10+ \$95/91/89

### Sony Tape Drives with Retrospect

Turbo (up to 90MB/min) 4-8GB external kit SDT7000XM	\$699
Turbo (up to 144MB/min) 12-24GB external kit SDT9000XM	\$929
120Meter Tapes 2-4/5-9/10+ \$171/141/12 125Meter Tapes 2-4/5-9/10+ \$31/28/26	

Nobody knows more about drives than MegaHaus. Call us with your needs. Custom configurations are just a call away.

### RAID

These preconfigured RAID's can be run in RAID 0 or 1 mode. The capacity listed is for RAID 0 configuration. In RAID 0, the data is striped across a pair of drives. This is perfect for digital video such as Media 100, TrueVision, Avid, or other applications that require extremely high data transfer rates.

Includes - Ultra 2 LVD SCSI drives - Adaptec PCI Ultra-2 SCSI controller - Adaptec Remus Lite RAID software - Necessary cables

	Removable	Fixed
18GB 7,200rpm 2 9.1GB Quantum Viking drives	\$1659	\$1559
18GB 7,200rpm 2 1.1GB Quantum Atlas drives	\$1859	\$1659
18GB 7,200rpm 2 1.1GB Seagate Barracuda drives	\$1829	\$1629
18GB 10,000rpm 2 9.1GB Seagate Cheetah drives	\$2289	\$2089
36GB 7,200rpm 2 18GB Quantum Atlas drives	\$2599	\$2399
36GB 7,200rpm 2 18GB Seagate Barracuda drives	\$2629	\$2429
36GB 10,000rpm 2 18GB Seagate Cheetah drives	\$3579	\$3379

## CD-RW PRICE DROP!

Nobody beats MegaHaus for CD Recordable Media prices! We will not be undersold. If by chance you do find a lower price, call us.

	CDR74	CDR74W	CDR74P
5 Pack	\$21/\$19	\$59/\$55	\$28/\$25
20 Pack	\$42/\$39	\$149/\$145	\$65/\$62
50 Pack	\$93/\$89	\$359/\$349	\$139/\$135
100 Pack	\$159/\$149	\$689/\$679	\$239/\$229
Budget 5 Pack	\$19/\$17	\$33/\$29	\$24/\$21
Budget 20 Pack	\$36/\$33	\$109/\$105	\$55/\$52
Budget 50 Pack	\$74/\$70	\$249/\$239	\$119/\$109
Budget 100 Pack	\$139/\$120	\$449/\$439	\$179/\$169

CDR74 is recordable, CDR74W is rewritable, CDR74P is printable. It is alone/with CDR purchase. 8X certified, & Platinum now available.

## IDE HARD DRIVES

	Call for models not listed
3.5" ULTRA IDE -	
3.2GB Quantum 5400rpm	FB303200A 3yr \$125
4.3GB WD 5400rpm	AC14300 3yr \$139
6.4GB Quantum 5400rpm	FB306400A 3yr \$149
7.6GB Quantum 5400rpm	FB307600A 3yr \$173
8.6GB Seagate 5400rpm	ST38641A 3yr \$175
10.1GB IBM 7200rpm	IBM10GXP 3yr \$259
10.2GB Seagate 5400rpm	ST310240A 3yr \$200
12.7GB Quantum 5400rpm	FB312700A 3yr \$229
13.0GB WD 5400rpm	WDCA31300 3yr \$264
14.4GB IBM 7200rpm	IBM14GXP 3yr \$359
16.8GB IBM 5400rpm	IBM16GP 3yr \$359
17.2GB Maxtor 5400rpm	M91728D 3yr \$319

2.5" IDE for laptops - Call for the best price around

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**G3/250 64/5GB ▲ CD ▲ 33.6 Mdm. ▲ FDD - \$1599**

G3/300 64/8GB ▲ 20xCD ▲ 56K ▲ 14.1" TFT	\$2995
G3/266 64/4GB ▲ 20xCD ▲ 56K ▲ 14.1" TFT	\$2195
G3/250 64/4GB ▲ 20xCD ▲ 56K ▲ 13.3" TFT	\$1899
G3/233 32/2GB ▲ CD ▲ 56K ▲ 12.1" TFT	\$1695
G3/233 32/2GB ▲ CD ▲ 12.1" DSTN	\$1495
2400C/180* 16/1.3GB ▲ Floppy	\$1159*
2300C* 8/750 ▲ Floppy ▲ Adapter	\$779*
5300cs/100* 8/500MB ▲ 14.4" ▲ Extra Bttry.	\$595*

## Printers

**5M ..... \$899**

**4000N\* \$1165**

■ MAC/PC

■ PSL2

■ Ethernet



## LaserJets

**4MV 16ppm, Eth, 11x17" ..... \$989**

**4000N/4000TN 17ppm ..... \$1285/1375**

**5000N/5000GN 16ppm, 1200dpi, 11x17 ..... \$1295/2325**

**6MP/5SIMX PSL2 ..... \$735/1649**

**DeskJets 1600CM/ PSL2, Ethernet ..... \$1295**

## PowerBook 2.5" IDE HD

**TOSHIBA 2.1/3.2GB IDE ..... \$109/179**

**IBM 4.0/5.0GB IDE ..... \$199/199**

**6.4/8.0GB IDE ..... \$249/479**

## STORAGE

**Zip Drive SCSI/USB .... \$105/189**

**Zip 10/PRCK Cartridge ..... \$77**

**Zip Plus SCSI & Parallel .... \$159**

**Jaz II Drive SCSI ..... \$299**

**Jaz/Jaz II 3/PRCK ..... \$207/240**



## MAXTOR

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**13.6GB IDE 3.5" .... \$299**

**17.2GB IDE 3.5" .... \$319**

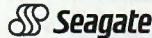
**Barracuda 2.4GB SCSI ..... \$139**

**Barracuda 9GB SCSI ..... \$399**

**Barracuda 18GB SCSI ..... \$699**

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**Cheetah 18GB SCSI ..... \$1099**



## Digital Cameras

**Agfa ePhoto 780 ..... \$349**

**Agfa ePhoto 1280 ..... \$529**

**Agfa ePhoto 1680 ..... \$779**

**Kodak DC 260 ..... \$759**

**Olympus D600L/D620L ..... \$769/1179**

**SONY Movica FD71 ..... \$609**

**SONY Movica FD81 ..... \$729**

**SONY Movica FD91 ..... \$899**



## Scanners

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**AGFA DuoScan T1200X ..... \$599**

**AGFA DuoScan ..... \$2249**

**AGFA DuoScan 2000 ..... CALL**

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**ix 3D Ultimate Rez ..... \$429**

**ix Micro Road Rocket ..... \$249**



**XclaimTV TV Tuner AV Card ..... \$87**

**Xclaim3D Rage Pro 8MB 2D/3D ..... \$229**

## PowerMacs

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**iMAC G3/266 ..... \$1159**

**G3/400 Minitor - \$2695**

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**G3/350 MT 128/12GB ▲ CD ▲ Zip ▲ 16MB ..... \$2299**

**G3/300 MT 64/6GB ▲ CD ▲ 10/100BT ..... \$1449**

**G3/300 MT 32/4GB SCSI ▲ CD ..... \$1629**

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**9600 & 8600 Series ..... \$Call**



**ALL Flavors!**

**SCSI Card for G3 Macs**

**\$129**

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**250/125MHz 512K Cache ..... \$399**

**250/125MHz 1MB Cache ..... \$689**

**300/150MHz 1MB Cache ..... \$649**

**300/300MHz 1MB Cache ..... \$679**

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**Apple 1710\* 17" ..... \$349**

**Apple 720 17" ..... \$395**

**Apple 750 17" ..... \$679**

**Apple Studio Display 15" ..... \$999**

**Apple Studio Display 17" ..... \$459**

**Apple Studio Display 21" ..... \$1379**



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**Multiscan Trinitron**

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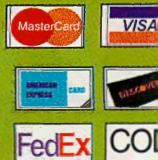


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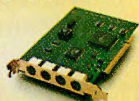
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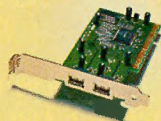


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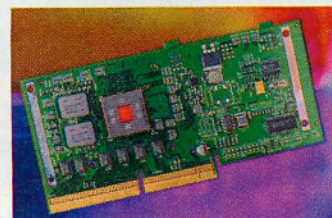
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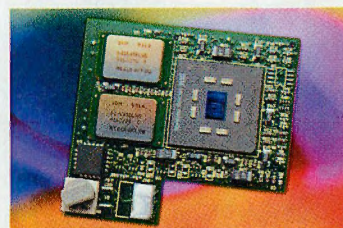
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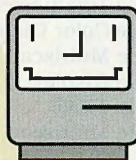
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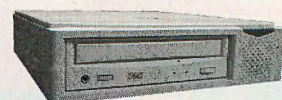
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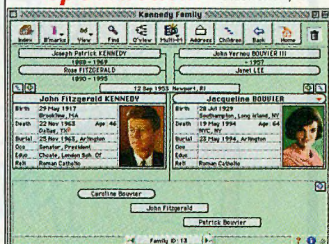
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—MARK SIMMONS, AFTER READING AN INTERVIEW WITH MICROSOFT'S ERIC ENGSTROM (THE GENERAL MANAGER IN CHARGE OF CHROMEFFECTS) IN *MAXIMUM PC* MAGAZINE.
- "That's me, Mark 'Death of Wit' Simmons."  
—MARK SIMMONS, AFTER AN ESPECIALLY BAD PUN.
- "I'm sorry I hit your teeth so hard with my fist."  
—NIKKI ECHLER, AFTER AN EDITORIAL DISAGREEMENT WITH MARK 'DEATH OF WIT' SIMMONS.
- "Lentils rock!"  
—DAVID REYNOLDS, DEMONSTRATING HIS UTTER INABILITY TO GRASP THE TERM *ROCK*.
- "Whatever happened to the Internet? You never hear about it anymore."  
—NIKKI ECHLER, SHOWING OFF HER KEEN AWARENESS OF CURRENT EVENTS.

## JOE FORGETS WHICH IS THE DATA FORK AND WHICH IS THE RESOURCE FORK.



DOODLE BY MARK SIMMONS

## Today in MacAddict History

**O**n this date in 1996, MacAddict's assistant art director, Adam Vanderhoof, discovered that he was actually left-handed, not right-handed. This personal revelation would change how the world saw Max, Adam's alter ego and MacAddict mascot, forever.



Pre-Discovery



Post-Discovery

## Dressed to Kill

**W**hat does a billionaire megalomaniac wear during his endless drive to crush competition, kill innovation, and bring mediocrity to every corner of the earth? Why, almost anything you want him to. Pull the handle on the Gates-O-Matic (<http://www.vegasdeluxe.com/comdex/gatesomatic.html>) to dress Bill for a whole new type of success.







Sometimes Newer Is Better Than New.



## Introducing the Latest Apple G3.

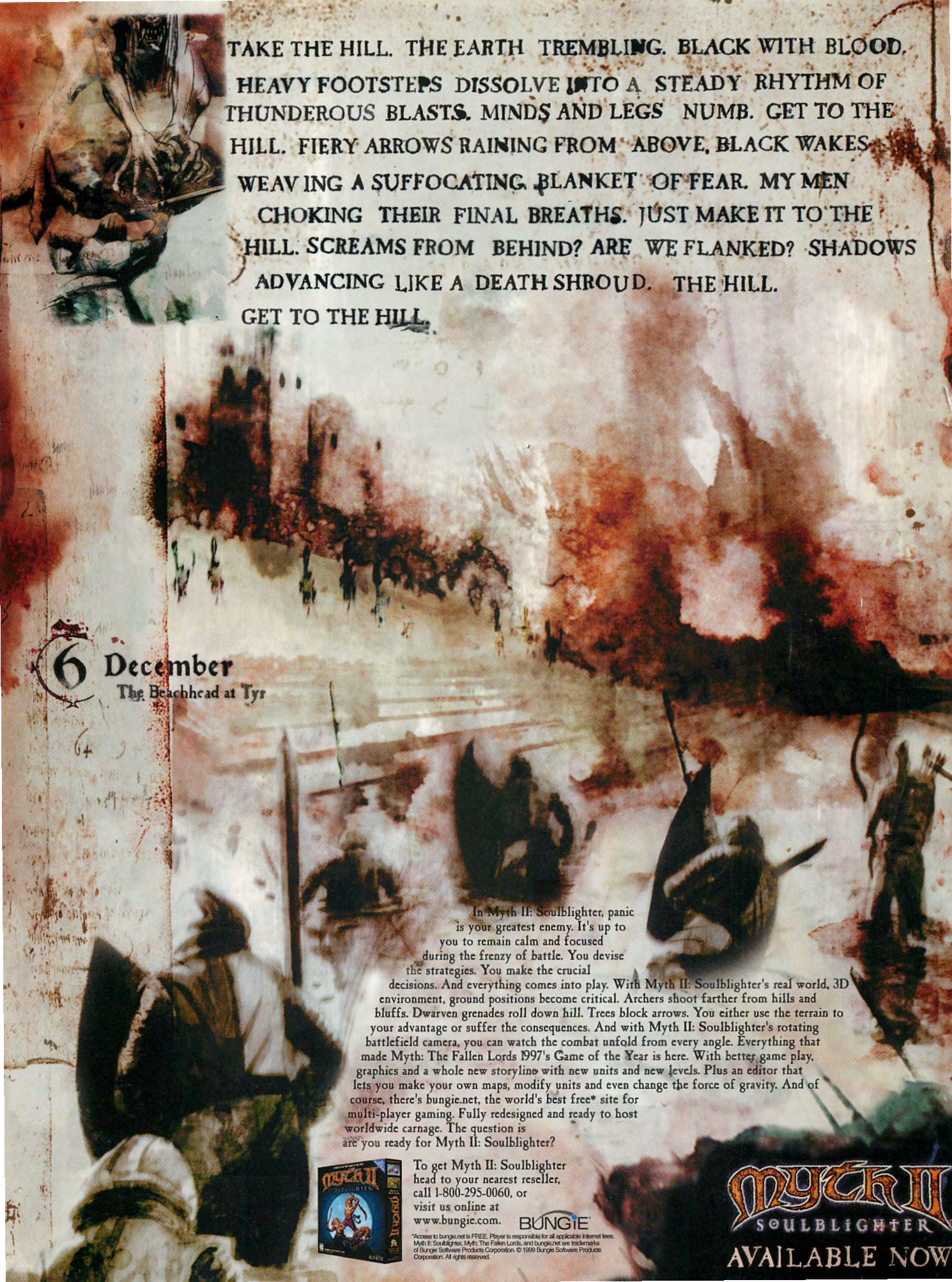
Want G3 power for your trusty old Power Mac? Simply plug in a Newer Technology MAXpower™ G3 processor upgrade card, and for a fraction of the cost of a new machine, your old Mac will go toe to toe with Apple's new G3 models. A MAXpower card is easy to install, and it's available for most Power Macs and clones. So, order a Newer Technology MAXpower G3 card today, and breathe new life into your older Mac.



Newer Technology is #1 in U.S. Mac CPU enhancement sales.\*  
To learn how to beef up your Mac, visit us at [www.newertech.com](http://www.newertech.com).

\*Information based on PC Data Retail Hardware Report, 1998.





TAKE THE HILL. THE EARTH TREMBLING. BLACK WITH BLOOD.  
HEAVY FOOTSTEPS DISSOLVE INTO A STEADY RHYTHM OF  
THUNDEROUS BLASTS. MINDS AND LEGS NUMB. GET TO THE  
HILL. FIERY ARROWS RAINING FROM ABOVE, BLACK WAKES  
WEAVING A SUFFOCATING BLANKET OF FEAR. MY MEN  
CHOKING THEIR FINAL BREATHS. JUST MAKE IT TO THE  
HILL. SCREAMS FROM BEHIND? ARE WE FLANKED? SHADOWS  
ADVANCING LIKE A DEATH SHROUD. THE HILL.  
GET TO THE HILL.

6 December

The Beachhead at Tyr

In Myth II: Soulblighter, panic is your greatest enemy. It's up to you to remain calm and focused during the frenzy of battle. You devise the strategies. You make the crucial decisions. And everything comes into play. With Myth II: Soulblighter's real world, 3D environment, ground positions become critical. Archers shoot farther from hills and bluffs. Dwarven grenades roll down hill. Trees block arrows. You either use the terrain to your advantage or suffer the consequences. And with Myth II: Soulblighter's rotating battlefield camera, you can watch the combat unfold from every angle. Everything that made Myth: The Fallen Lords 1997's Game of the Year is here. With better game play, graphics and a whole new storyline with new units and new levels. Plus an editor that lets you make your own maps, modify units and even change the force of gravity. And of course, there's bungie.net, the world's best free\* site for multi-player gaming. Fully redesigned and ready to host worldwide carnage. The question is are you ready for Myth II: Soulblighter?



To get Myth II: Soulblighter head to your nearest reseller, call 1-800-295-0060, or visit us online at [www.bungie.com](http://www.bungie.com).

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**Myth II**  
SOULBLIGHTER

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